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# The Journal of the Michigan State Medical Society

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Vol. XI

BATTLE CREEK, MICHIGAN, JANUARY, 1912

No. 1

## ORIGINAL ARTICLES

### DISEASES OF THE THYROID\*

CHARLES H. MAYO, M. D.  
Rochester, Minn.

Many theories have been advanced with regard to the special secretion and function of the thyroid gland. The various glands of the body can be classified into three groups; protective, digestive and eliminative. The thyroid is classed among the protective glands. From investigations which have been made to the present time, it would seem that in association with the parathyroid the thyroid gland is an important factor in the control of calcium metabolism; that in association with the hypophysis, it is concerned in the development of the body; and that together with the adrenals and the hypophysis, it serves to control blood pressure and circulation through the so-termed internal secretion.

While a relationship is thought, by some, to exist between the thyroid and the pancreas, yet that connection is not well understood.

That the thyroid is a sex gland is indicated by the fact that, in some invertebrates, it empties by a duct into the uterus.

\*Abstract of address of guest of honor at the 46th annual meeting of the Michigan State Medical Society Detroit, September 27, 28, 1911.

The ductless glands in the neck can be demonstrated in embryos of 4 mm. The thyroid develops from three anlage, a superior median in the tongue-bulb, and two lower in the fourth branchial groove. Failure of complete descent leaves the superior portion as lingual, sublingual or suprahyoid thyroids. The developing hyoid, by its entanglement with the thyroid may cause the central part to string out into a pyramidal lobe. The midline cysts in this region are due to the thyroid's drawing embryonic mucosa into an anomalous situation.

The thymus gland forms in two buds in the third groove and in its descent may draw a portion of the thyroid into a sub-sternal position, as an accessory or aberrant thyroid.

The thyroid gland, weighing from an ounce to one and one-half ounces in the healthy adult, rests on either side of the trachea to which it is firmly attached. It is alveolar in structure and is lined with columnar cells. Over secretion is shown by an increase of cells (parenchyma.) The quantity of colloid shows, to a degree,

the activity, or lack of it, in the vesicles. When in excess, it means simple or colloid goiter as retention cysts, and in great quantities it may, by pressure, destroy the secreting cells. The area of arterial supply to the thyroid is approximately that from the circle of Willis to the brain.

The thyroid gland is found in all animals, and its study in them has thrown considerable light upon the subject in general. The young of animals, without this gland, fail to develop and are called cretins.

The simple, watery, colloid goiters of adolescence are probably physiological, to a degree with the sex development. The goiters of this period are responsive to medical treatment, seldom requiring operative relief.

The glands of the body are normally over-sized so that they may respond to excessive demands, or still be able to secrete in sufficient amounts should they be partially impaired at birth, or by disease.

The four epithelial bodies or parathyroids, although very small, are to be considered as a part of the thyroid group. They are located behind the thyroid, developing in the third and fourth grooves of the embryo. They are apparently often injured at birth by hemorrhage, yet seldom develop tumors in later life. When operating, these glands should be preserved to prevent tetany.

Hydatid cysts, tuberculosis and malignancy, both carcinoma and sarcoma, are occasionally seen.

Morgagni's disease, Flajani's disease, Parry's disease, Grave's disease, Basedow's disease, exophthalmic goiter, etc., are merely terms to describe a group of irregular

symptoms. Moebius' disease would be a better term since Moebius first suggested, in 1886, that the disease was caused by thyroid change and secretion. Hyperthyroidism seems a reasonable term. It is a condition which can be present without sickness, yet which may become essentially toxic and cause death as a primary or chronic condition.

The medical treatment of the disease for the past 100 years has made little impression on the medical profession the world over. All forms of treatment, climatic, rest, internal and external medication, have been and are still employed by men who are contemporaneous with the older period of medicine, that is, before we had any pathologic entity or knowledge of the real changes in the gland.

The early operation of ligation cures many cases. Early as well as advanced cases can be cured by partial thyroidectomy. Very late cases, with degeneration of the heart, kidney, and liver, can be improved but not completely cured by partial thyroidectomy. The mortality in these cases will vary from 1 to 4 per cent. Combined operations are often indicated in bad cases; first ligating one or both superior vessel areas, and, later, doing a partial thyroidectomy.

Local anesthesia is indicated in most ligations. Local or combined, or straight ether anesthesia, are the methods used for thyroidectomies, according to the preference or experience of the individual operator.

In 900 operations performed on the thyroid in St. Mary's Hospital during the first ten months of 1911, the mortality was 1 per cent.



## THE CHOICE OF OPERATION FOR THE RELIEF OF PROSTATIC DYSURIA AND THE PRELIMINARY TREATMENT INDICATED.\*

PAUL M. PILCHER, A. M., M. D.  
Brooklyn, N. Y.

In reviewing the literature of prostatectomy, it is interesting to note that among the different methods of attacking the prostate that have been practiced by different surgeons, practically equally good results are reported by most diverse methods when used by men who have become specially skilled in their application. The great relative frequency of obstructive prostatic dysuria, and the general recognition of the possibilities of operative relief, will compel the frequent attempt on the part of the general surgeon to supply it, "So that the question is no longer what is possible in the hands of the specially expert, but what, in the light of our present knowledge of the anatomical relations and the pathological changes of the prostate gland will, in the hands of the average surgeon, most certainly and safely, wholly and permanently, relieve the obstructive dysuria that the prostatic disease has produced." (L. S. Pilcher).

Any careful surgeon will probably have a considerable series of favorable cases without a death, but, sooner or later, he will meet with cases which demand surgical relief and, despite the skill of the physician, terminate fatally, so that we must content ourselves with recovery in from 90% to 95% of our cases. This is, indeed, a magnificent record, when we realize that the disease affects chiefly men between the ages of 65 and 80, and the disease,

if not relieved by surgical operation, would not only condemn the unfortunate owner of the prostate to a miserable and filthy invalidism, but most certainly, in a relatively short period of time, would bring about the death of the patient.

Sometimes I fear that the general practitioner is still swayed in his judgment by his experiences of a previous decade, but let me assure him that the advances made in this branch of surgery have been among the most tangible and brilliant, not only in the relief of the urinary obstruction, but also in bringing about permanent relief from the mental and physical degenerations associated with chronic prostatism. It is not alone the urinary obstruction which must be considered in these patients but also that which, to my mind, is equally important, the rehabilitation of the patient's self-respect, the rejuvenation of one prematurely aged, and the rekindling of a mind clouded by the incomplete elimination of toxic products, disordered by the constant call for relief from his bladder, and degraded and isolated from intellectual intercourse and association with his fellows on account of the unpleasant odor which clings to his clothing, his irritable temper, and the constant or frequent desire to urinate.

If the patient survives his operation, the mental relief is sure to follow. As to the complete and permanent cure of his dysuria, we have found that in the great majority of cases that have been subjected

\*Read at the forty-sixth annual meeting of the Michigan State Medical Society, Detroit, September 27, 28, 1911.

to total prostatectomy, the ability to empty the bladder spontaneously has been restored and has been maintained permanently, so that the catheter has been no longer necessary. In these cases there is but little, if any, residual urine, and the quality of the urine has become fairly normal. In a very large proportion of the remaining cases a marked improvement has resulted; the amount of residual urine has decreased, the intensity of the cystitis has diminished, and the frequency of catheterism has been lessened, and the facility of passing the instrument has been increased.

As to catheterism we grant that, in many instances, the catheter is well borne for prolonged periods, but even in the cases which are most resistant, cystitis sooner or later develops and chronic prostatism follows.

#### CHOICE OF OPERATION.

We still recognize the three distinct types of diseased prostate, i. e., the massive, soft, adenomatous gland; the relatively small contracted hard prostate; and the mixed type. Formerly our judgment as to the character of operation to be selected depended largely upon the type of prostate with which we are dealing. As our understanding of the various pathological conditions becomes more enlightened, we find that the type of prostate is not so reliable a guide as other factors to be enumerated later.

*Choice of Operation.*—Perineal prostatectomy is a more difficult operation and should be performed by one possessing special surgical ability and special training. It, however, entails less post-operative discomfort to the patient, the wounds heal more quickly, and normal urination is established sooner than in the suprapubic operation. It is to be preferred in the younger patients where a more prolonged

operation with the patient lying with his head lower than his body is not dangerous.

Suprapubic prostatectomy is indicated in all cases of massive adenomatous hypertrophy of the prostate, irrespective of the age of the patient. It is, by far, the safer and easier operation for a surgeon of less experience. The technical part of the work is more easily accomplished, the prostate is more surely removed in its entirety, and there are fewer chances of wounding adjacent tissues. I believe that with sufficient care the possibilities of preserving the ejaculatory ducts and preventing impotency are just as feasible here as in the perineal operation. As to the safety of the operation in a given case, the suprapubic operation is as safe as the perineal operation in any case, and can, in some cases, be safely done as a two stage operation, following previous cystotomy, where the perineal operation would unquestionably be fatal.

More important, however, than the choice of the type of operation is the preliminary treatment of the patient. Prostatectomy is never an emergency operation and never should be undertaken without due deliberation and careful examination. It is especially important to know the amount, specific gravity, and character of the urine secreted. From this we can judge somewhat of the condition of the kidney and bladder if cystoscopy is not feasible. In my experience cystoscopy, in these cases, is desirable but not absolutely necessary; it may be harmful. The next important factor to know is the amount of residual urine, and the only way of determining that is by passing a catheter, after the patient has passed as much urine as possible immediately preceding the instrumentation.

The character and size of the obstructing prostate can best be determined by rectal examination, combined with cystoscopic

exploration of the bladder. The surgeon must, at all times, take into consideration the general condition of the patient, his arteries and his heart.

Of prime importance is the condition of the patient's kidneys. The enucleation of the prostate may be faultlessly accomplished from a technical point of view and yet death result from uremia, simply because too little attention was given to the condition of the kidneys before the operation. In this we have as our guides, chiefly the amount and specific gravity of the urine and not its albumin content and the various functional renal tests of which the P. S. T. test, i. e., the Phenol Sulphone Phthalein, is the most useful for our purposes.

It is dangerous to completely empty a bladder which has been considerably distended for months. It will sometimes be followed by intravesical hemorrhage and considerable shock and prostration, and may defeat the purpose of the instrumentation. Gradually, the bladder is completely emptied, and, after three or four days, a continuous drainage of the bladder may be employed. In the cases of polyuria with a low specific gravity, it will be found that within 24 to 48 hours the amount of urine secreted in a day will materially decrease and its specific gravity correspondingly increase. With the permanent catheter in place, it is a simple matter to test the function of the kidney. We use, preferably, the P. S. T. test, phenol sul-



**The Pilcher Observation Cystoscope**

The instrument was constructed for use especially in cases of obstruction or irregularity in the posterior urethra. It was found that a sound often times would pass more easily into a bladder than a cystoscope with a more angulated beak. Therefore, this instrument was constructed, and instead of having an angulated beak, it was constructed with a smooth curve, similar to the sound.

It consists of a sheath and removable telescope fitted with a correct vision brilliant lens system, and has proven very satisfactory.

The renal function is very considerably influenced by the amount of residual urine present in the bladder, therefore, the first indication is to regularly empty the bladder completely, and *keep* it empty long enough to allow the kidneys to re-adjust themselves before the shock of an operation is added. This is best accomplished by the introduction of a permanent catheter. A catheter of about number 24 of the French scale is inserted until its eye is well within the bladder and fastened in place. A cork or clamp closes the outer end of the catheter. If there is a large amount of residual urine, the bladder should be partially emptied every two or three hours, or more frequently if the irritability of the bladder demands

phone phthalein, and when we find the renal function is sufficiently re-established, we operate. This may take only three or four days or even three weeks before the proper moment arrives, but it is worth waiting for. There are few of us, I am sure, who have not regretted hasty operations on these patients. The family, attending physician, and patient, are all clamoring for something to be done, and we are often thrown off the balance which our better judgment tells us we should maintain.

The early stage of prostatic urinary obstruction in which there is little or no cystitis, a moderately increased frequency of urination, and only three or four ounces of residual urine does not call for any

special surgical judgment to handle. A careful operation, either perineal or suprapubic, in the hands of an experienced surgeon, will usually be successful.

There are, however, the more advanced and complicated cases, which must be handled very delicately, with the greatest attention to details, lest the entire human fabric be ruined by a sudden undue stress being thrown upon one of its supporting timbers, which have not been braced sufficiently to withstand the shock.

*Class 1.* Patients with a large amount of residual urine, who are passing 70 to over 100 ounces of urine of low specific gravity in twenty-four hours. Their rest at night is disturbed every thirty to forty-five minutes. In the treatment of these cases an indwelling catheter is used to gradually reduce the amount of residual urine, as previously described. When it is not possible to introduce a catheter or evacuator, the patient should be kept as quiet as possible, preferably spending most of his time in bed. The bowels are moved freely by salines, and the amount of liquid given is reduced to a minimum. In this way the amount of urine secreted is considerably diminished. Then, at a favorable moment, a suprapubic cystotomy should be done under local anesthesia, and bladder drainage established. No attempt should be made at this time to remove the prostate. Two weeks of this drainage should usually elapse before it is best to proceed to the removal of the prostate.

*Class 2.* Patients with very frequent urination, or painful dribbling of urine, due to partial retention, complicated by a foul cystitis, with or without a calculus. Such cases, in my estimation, are best handled as in Class 1, by bladder drainage for, at least, one week either by catheter or suprapubic cystotomy, and then, depending on the special training and expertness of the operator, followed by a perineal or suprapubic prostatectomy. In all cases where a previous cystotomy has been done, a suprapubic enucleation can be accomplished most quickly and with the least amount of shock to the patient. I have, personally, removed a large prostate through a previously made cystotomy opening, in two and a half minutes.

*Class 3.* Patients who have suffered a long time from urinary obstruction due to prostatic

enlargement, and are already suffering from uremic symptoms and suppression of urine.

Some of these are beyond help, while others may be brought safely to operation and recovery. Of the former I have the record of a patient, 97 years of age, whom I called to see in consultation. He was suffering from partial suppression and complete retention of urine, I advised regular catheterism and frequent flushings of the bladder with hot saline solution. He had temporary relief but died, uremic, within a week. It is this class in which we must expect some mortality. If we refused to operate upon them, of course, our 5 or 10% mortality record would be reduced to 2 or 5%. But even in this class, many brilliant results are secured. Here preliminary treatment is absolutely essential and may last three or four weeks before it is safe to operate. Our routine in these cases is:

An indwelling catheter and hot irrigations of the bladder for two weeks, or more.

A suprapubic cystotomy at the most opportune moment, under local anesthesia, followed in a week or two, by a suprapubic enucleation and free drainage of the bladder.

#### TECHNIC OF THE OPERATION

Perineal prostatectomy has been so carefully described by other surgeons, and our own modifications in the technic which have been published elsewhere are of such minor importance, that time will not be taken to review this form of operation.

Suprapubic cystotomy is performed, usually, under local anesthesia. The operation is started with the bladder empty. After the skin incision has been made, and the recti muscles separated and retracted, the bladder is filled with either sterile fluid or air, through the permanent catheter. As the bladder is seen bulging into the wound, two silverized catgut sutures are inserted to engage and hold the bladder. They mark the high point of the fundus which is to be incised, and serve to steady the bladder while it is being opened. They serve, further, to fasten the drainage tube in place and close the bladder tightly around it. Our experience has taught us



that closure of the sinus is more quickly secured if the opening in the bladder is high up on the fundus. Squire's point\* is well taken when he says that "The bladder incision should be made high up on the fundus, close to the peritoneal reflection, for when the patient is in the

tube is inserted, with its fenestrated end in the bladder, the bladder wall is snugly closed around it, using the silverized catgut sutures previously inserted, the suprapubic wound is closed around the tube, and, if desired, the tube is connected with a suitable urinal. If a permanent catheter



**Supra-Pubic Prostatectomy**

The figure illustrates the removal of the prostate by the supra-pubic method. The finger has been thrust into the prostatic urethra and enucleation is begun at the point furthest from the bladder. The section shows the finger breaking through the lateral inferior wall of the urethra. At this point it is easier to find the proper line of cleavage between the prostate and its capsule. The finger is swept from side to side, and it will be found that the portion which seems to be above the finger in the illustration, is part of the lateral mass and is easily enucleated with it. After the mass of prostate, including the median enlargement has been freed from its fascia and capsule it is turned out into the bladder and easily removed. The illustration shows how the prostate is supported by a finger in the rectum and pushed up nearer the enucleating finger.

upright position, the beginning of the suprapubic sinus is in a less dependent position." Therefore, the tendency to urinary leakage is less marked.

If the prostatectomy is not to be completed at this time, a large rubber drainage

has been previously inserted, it is allowed to remain in place. Through the supra-pubic tube and catheter, the bladder may be treated if deemed necessary, but, as a rule, we find that irrigations after cystotomy are not indicated. The patient is allowed up in a day or two.

Suprapubic prostatectomy is a compara-

\*Boston Medical and Surgical Journal, Vol. 164, No. 26, p. 911.

tively simple operation. A cystotomy is performed as described above. If a suprapubic opening exists as a result of a former cystotomy the enucleation of the prostate is a matter of only a few minutes. Certain points are essential to a rapid, complete and satisfactory operation. The stretched and paralyzed sphincter of the bladder should be left as nearly intact as possible, the plexus of veins surrounding the neck of the bladder, lying beneath the mucous membrane, should be avoided, and the proper line of cleavage between the adenomatous, or fibro-adenomatous tissue, and its confining sheath and capsule should be found.

To accomplish this, the enucleation should be started within the prostatic urethra itself, and not by making a puncture through the bladder mucous membrane. Through the suprapubic opening, the finger is passed into the bladder and then is introduced into the prostatic urethra. Squire, who strongly advocates this operation, seeks the line of cleavage through the roof of the prostatic urethra. Personally, I have found it just as satisfactory to enter the tip of the finger anywhere except where the ejaculatory ducts enter; the main point being to have the finger outside the bladder. Aided by a finger in the rectum, the enucleation of the distorted prostatic mass is quickly accomplished and, when loosened up, may

be turned out into the bladder and removed. The loosened and somewhat torn pieces of mucous membrane which are left behind, fall into the cavity which is left, and, later, undoubtedly help in re-forming a normally functioning vesical outlet.

After removing the prostate and checking the hemorrhage, if there is any to speak of, the suprapubic opening is closed around a fairly large rubber drainage tube. The permanent catheter still remains in place in the urethra. Both the suprapubic tube and the urethral catheter are connected by rubber tubing with urinals. The bladder may be irrigated through either tube. The suprapubic tube is removed after twenty-four hours and the opening allowed to close if it will. The patient may be allowed up at any time.

In review of my own work and that of others, I feel that every surgeon who attempts this work should outline some definite line of attack and perfect himself in that method; not trying this operation and then another, never mastering the really important details of any.

Patience, preparation, careful observation, attention to the smallest details, the preliminary drainage of the bladder, clean cut, rapid enucleation,—these are the essentials necessary to success in these cases.

145 Gates Ave.

#### DISCUSSION

I. D. LOREE, Ann Arbor: I wish to repeat a statement that I made two years ago, at the annual meeting of this society, in which I said: "The choice of operation for senile hypertrophy of the prostate has no influence upon the mortality." In the choice of operation, two things must be considered; viz., the mortality and post-operative complications. Such complications oftenest encountered are permanent fistula and incontinence, either one of which is very disagreeable, not only to the patient, but to the operator. During the last two years, I have

performed both the perineal and suprapubic operations, I have had fewer postoperative complications by the latter route, and I think we should be guided in our choice of operation by the one that will give our patient the greatest comfort.

There are both good and bad things to be said for each operation. The old idea that you may tear into the bowel, when employing the perineal route, is no more likely than that you should open the general peritoneal cavity when operating from above. If we publish our failures, as

well as our successful results, we must admit an occasional tearing of the peritoneum, when drawing up the fold above the Space of Retzius. In the last year, I have operated on twenty cases of senile hypertrophy, out of which I had one death, a result of general peritonitis.

There is no question but that we are saving a great many of these old men by more careful preparation and postoperative treatment. A retaining catheter should be employed, with frequent irrigation of the bladder, preliminary to operative intervention. Acidulated solutions are employed with much advantage where there is much cystitis. This is especially so when the wound becomes coated with urinary deposits after operation.

The great trouble in the past has been that this class of patients remain in the hospital too long, and, it seems to me, our efforts in the future must be directed toward obtaining quicker healing and thereby shortening their hospital life.

A. E. HALSTEAD, Chicago: My choice of operation in prostatectomy has been largely the suprapubic operation. I suppose, in about eighty per cent of the cases of hypertrophy of the prostate, I have found it better to operate by the suprapubic method. I follow the technic first described by Moynihan, making a two-inch suprapubic opening, which takes, at most, seven or eight minutes. The prostate is then removed through the bladder. I introduce the left hand into the rectum, thus holding the prostate steady, while, with the other hand in the bladder, the growth is quickly enucleated. It can generally be removed in from two to five minutes, depending upon the character of the growth. The whole operation consumes fifteen or eighteen minutes. If the operation is properly carried out there is practically no hemorrhage. I have never had a severe hemorrhage. By carefully introducing the index finger within the capsule of the gland, the prostatic veins will not be injured, and there will be no hemorrhage afterwards. My mortality in suprapubic operations has been practically *nil*. Of course, I select the patient. I do not operate on every case of prostate that I have, by the suprapubic method. Some are more easily reached by the perineal route. I also prepare the patient carefully, and then do the operation best suited for that case.

I did not hear all of Dr. Pilcher's paper as to the after-treatment. But I keep the drainage in the bladder for more than twenty-four hours.

I keep the bladder practically empty, without disturbing the patient, by use of the apparatus devised by Bremerman, of Chicago.

\*DR. MARTIN: I want to suggest to all who contemplate doing prostatectomy, that the best way to work out your technique is to practice on a cadaver. This is not always possible for the surgeon in small towns, as they cannot always get a cadaver when they want one, but whenever a man gets an opportunity to make a postmortem on a male subject he ought not to neglect the opportunity. Oftentimes arrangements can be made with the undertaker, who is also a coroner, to work on some subject from the county home. There is one point I would like to emphasize. Dr. Pilcher said he did not find it necessary to do much in irrigating of the bladder after the operation. My experience has been that no matter what operation is used, the bladder should be washed frequently and thoroughly after every operation on the prostate.

F. W. ROBBINS, Detroit: I think the mortality depends much upon the preliminary and upon the after-treatment; in fact, that is the most important part of the whole business—more important than the operation. And that has a bearing on the paper read by Dr. Tibbals in the medical section yesterday morning. Dr. Pilcher, in line with most urinary surgeons, spoke strongly in favor of cystoscopy as a preliminary to operation, but for the life of me I cannot see the point. If you have an enlarged prostate and decide to remove it by the suprapubic operation, I cannot see the use of irritating the urethra as a preliminary measure. But as it is so strongly advocated by so many good men there must be something in it, or some reason for it. I do think there is something to consider besides simply the enlarged prostate. There is such a thing as making a diagnosis between one enlarged prostate and another, and if I find an enlarged prostate in a patient or friend, I want to know what kind of a prostate that is, and how easy it is going to come out. I believe there is a large proportion of prostates that are cancerous, and they are much more liable to be followed by hemorrhage, and the mortality increased. It has been reported that twenty per cent of hyperprostates are cancerous.

C. D. BROOKS, Detroit: One of the speakers said it was well to be qualified by experience. I think we should emphasize that point. I believe he is correct, and he will probably

\*Address and initials not obtained.—Editor.

agree with me, that no one should attempt to operate on a prostate of an old man, or a young man, who has not had a great deal of experience in assisting surgeons. I do not believe that one or two years experience is enough. I do not think there is anything more pitiful than embryonic surgery operating upon prostates.

I think a surgeon should have competent assistance. These operations can nearly always be performed under nitrous oxygen gas and oxygen.

We have a large number of cases and with a fairly low mortality, scarcely any except the cancerous cases, and secondary renal complications. We do not believe in irritating the bladder except in unusual cases. The other gentlemen may have better results with irrigation, but we do not irrigate, and our cases appear to get along very well if left alone.

PAUL M. PILCHER, closing: In answering some of the questions raised, I wish to state, briefly, that I prefer to use a permanent catheter in the urethra to secure a constant drainage of the bladder. This allows the suprapubic drain to be removed earlier. The permanent catheter remains in the urethra five or six days.

As to the use of irrigation after prostatectomy, I have not found any advantage in it. Previous to the operation, it is indicated in order to secure as healthy a condition of the mucous membrane as possible. Postoperatively, it is indicated only to increase the secretion from the kidney. I believe that no operation should be undertaken for prostatectomy without a systematic examination of the patient, and I believe, further, that fewer mistakes and fewer incomplete operations will be done if the suprapubic route is chosen for the removal of the gland.

### PROSTATIC SURGERY

L. B. Wilson and B. F. McGrath, Rochester Minn., (*Journal A. M. A.*, November 11), describe in detail the anatomy and physiology of the prostate gland and also its infections. They give the results of a study of 468 cases, seven of which were tuberculous. They question the probability of this being hereditary, though it has been suggested. It occurs mostly in young adults and it may be the only organ of the body secondarily infected. The ordinary picture of acute prostatitis in the text-books, they say, is misleading, as it gives the symptoms of the severe parenchymatous form, whereas both the lighter forms, the catarrhal and the follicular, are much more frequent. Gonorrhea is the most common cause of all the forms. As regards hypertrophy, all of their patients were over 50 years of age and the majority over 60. In more than half their cases there was definite evidence of prior chronic inflammation, thus agreeing with Albarran's views. The greater part of the bladder troubles of old people are due more to exacerbations of chronic prostatitis than to hypertrophy. They describe the stages as observed in hypertrophy in their cases without offering special suggestions as to its origin. Atrophy of the organ has multiple and quite different causes. As regards changes subsequent to castration, we must distinguish between those before and after puberty. In the former case there is an inhibition of growth not an

atrophy. It is doubtful, they think, whether true atrophy ever results after castration in existing hypertrophy, though it can occur after operations. Associated with exhausting diseases it is found in connection with atrophy of all the body structures. Stricture is a common cause of mechanical atrophy of the organ, caused by the pressure of the stagnating urine. Senile atrophy is to be considered as prostatic atrophy in the narrower sense, since it can occur in advanced age without any cause as yet determined. The prostate may become apparently completely destroyed in suppurative conditions from gonorrhea, tuberculosis, etc., but Frisch considers it incorrect to call this condition atrophy. Concretions are not so uncommon and are most numerous in the aged. They may set up no symptoms or may cause chronic inflammation and suppuration. In conclusion, the authors discuss the malignant growths in the prostate which occurred in seventy-nine of their cases. They think such growths are those most likely to escape observation, though usually one can be moderately certain by gross inspection. It has been their custom to make frozen sections and have them examined during the operations. Their object in this rather extensive study of the subject has been to stimulate interest on the part of physicians, many of whom seem to be almost or quite neglectful of its existence.



## THE GENERAL USE OF FAT IN THE DIET\*

JAMES E. DAVIS, M. D.  
Detroit, Michigan.

"The modern point of view is that the fat of the body originates partly from the fat of the food, particularly in carnivora, and partly from the carbohydrates of the food, especially in herbivora, in whose diet this foodstuff forms such a large part. Whether, under any circumstances, the protein food may also serve as a source of body fat is still an open question."<sup>1</sup>

"Experience seems to show that carnivorous animals can be fattened more easily on a fat diet, herbivora on a carbohydrate diet. In animals like ourselves, there is reason to believe that the carbohydrates are more easily and more quickly destroyed in the body than the fats, and that therefore, the latter may be more readily deposited in the tissues, although an excess of carbohydrate beyond the actual needs of the body will also be preserved in the form of fat or glycogen."<sup>2</sup>

From the foregoing summary by Howell of our present knowledge concerning the source of body fat, it can be conceded that fat in the diet is not a necessity for the deposition of fat in the tissues. However, when a deposition of fat is desirable, a liberal fat content in the food offers the best source of its supply.

The general use of fat in the diet merits a careful consideration of, first, the individual, his habits of living, his require-

ments, his digestion and metabolism; second, the kind of fat available, and third, the purpose for which it is given. The individual requirement in a diet is a significant problem that cannot often be settled by comparison only. The personal co-efficient of the prescriber is often his undoing. The best dietician is he who is emancipated from personal prejudice and weighs each case with all the consideration involved.

The individual palate is a thing of very great variety. The Hindoo eats rice flavored with curry. The Spaniard likes onions with his bread. The Frenchman uses olive oil as a relish. The Icelandic is fond of fish oil served with his meat.

Since Pavlov has demonstrated that food passing out from the oesophagus by way of a fistula can excite free enzymic secretion, we know that psychic suggestion is a powerful means towards a good digestion. It is not strange, then, to find the odor and taste of fat bacon, fresh sweet butter, fish oil, or anything else eatable, appealing differently to the appetite.

The habit of out-door living with adequate exercise, will go far towards increasing a natural demand for a larger quantity of fat consumption.

In selecting the fats of our dietary, we ordinarily succeed best with those having the lowest melting point, for these are easiest of digestion. But the individual preference should be first regarded.

\*Read at the forty-sixth annual meeting of the Michigan State Medical Society, Detroit, September 27, 28, 1911.

1. Howell—Text Book of Physiology, page 877.

2. Ibid.

It is the usual experience that the animal fats are better tolerated in heavy feedings which have to be carried on for a long time.

The melting points of the four most commonly used animal fats are given by Gouraud<sup>3</sup> as follows:

Mutton fat, 108°

Beef fat, 105°

Pork fat, 91°

Butter, 88°

The digestibility of these fats is easiest with those of lowest melting points, unless encased in a connective tissue membrane. Pork fat is harder to digest than mutton or beef, because of this encasement. Butter, if fresh, is the easiest to digest of the animal fats, and if we consider palatability, it is the best of all fats, either animal or vegetable.

Yet, butter contains more ferments and more bacteria than other fats, and, consequently, degenerates quicker. In order that butter shall be the most easily digested and most palatable of the fats, it must be fresh.

The melting point of olive oil is 35°, therefore it should be the best for the digestive tract. It is less liable to degenerative processes than any other edible fat. Yet, the problem of its palatability offsets its value below butter. However, skill upon the part of the cook may place olive oil in the dietary to the extent of its preferment above all other fats.

The disrepute of fats undoubtedly arises, in most instances, from the practice of serving them hot instead of cold. All fats are more digestible when cold. Pascualt<sup>4</sup> says, "Hot melted butter is very hard to digest, because the water which separates the fat globules has been evaporated, thus rendering the attack on it by the digestive juices much more difficult."

The practice of cooking foods with a high percentage of fat admixture is inadvisable, for not only is the moisture separating the globules driven off, but encasement is made which increases the difficulties of digestion. This is particularly true of the products from the frying-pan. Sutherland<sup>5</sup> says, "When fat is overheated, irritating products are apt to be formed from it, such as acrolein, which causes the disagreeable smell from a badly extinguished candle."

This same author believes the frequent indigestibility of pastry is from the prevalent use of poor butter which, when subjected to heat, easily undergoes changes which cause indigestibility.

The butter or other fat to be added to food should be fresh and the smallest possible amount only, should be subjected to prolonged heat.

Not only palatability but digestibility are promoted when fats are served at low temperatures.

Fats are made more digestible in some instances by their combinations with starchy food. Butter or cream is mixed with a mealy potato and both the starch and the fat are made more palatable and digestible. "A suet, when made into a farinaceous pudding," says Thompson,<sup>6</sup> "becomes very much more digestible."

It is a reversible rule that a diet abundant in fat, necessitates the use of carbohydrates, or a diet rich in carbohydrate, necessitates the use of fat.

It is a very common commercial practice to add salt enough to butter to prevent rancidity. When this is done to the extent of more than 40 grains to the pound, or 2.5 grains to the ounce, the salt is to be regarded as an irritant to the kidneys.

The body obtains from its food, heat and work energy. Seventy-five per cent of

3. Gouraud—What Shall I Eat, page 141.

4. Pascualt—Quoted by Gouraud in What Shall I Eat, page 142.

5. Sutherland—A System of Diet and Dietetics, page 12.

6. Thompson—Practical Dietetics, page 175.

the food is used in producing the heat units, while only twenty-five per cent is needed for work energy.

If the digestion, absorption and metabolism of the different foods involved a common and equal expenditure of energy, leaving only the problem—a definite amount of energy from a certain amount of food—and this energy product to be divided in proportions of three for heating purposes and one for working purposes, we could easily solve our problems in nutrition. But protein, for example, undergoes a very complicated change during its metabolism. Carbohydrates involve a metabolism which is, as yet, not fully understood, as we have observed from the enormous labor bestowed in attempting to understand diabetes mellitis.

In the digestion of protein, from 12% to 15% of the energy in the food is utilized by the digestive apparatus with carbohydrates about 8% and with fat, perhaps, slightly below 2%, and, according to Von Noorden,<sup>7</sup> a mixed diet uses 8% of the energy incorporated in the food.

The general use of fat in the diet is most appreciated and most involved where the problem of undernutrition is presented, and this is one of the greatest problems of the human animal, because his complexity of life activities are such as to divert the natural inborn instinct of life preservation, which depends, among all forms of life, upon nutrition.

Man, in command of an abundant food supply, probably does not nourish himself as well as the lower animals placed in like favorable food environment.

The tremendous strain of civilization is telling upon nervous tissues, perhaps more on account of undernutrition than from an increased output of work energy.

The fact that food is easily obtainable

and highly prepared obviates the necessity of the same degree of mental attitude toward this subject.

The very fact of the presence of abundant food of a very high nutritional value tends towards a carelessness in taking enough food for excellent nutrition.

The evolution of appetite, digestive apparatus and food, has been such that in this age of great refinement there is involved the necessity of two things, first, appropriate cooking, and second, a standard amount of food yielding definite caloric values. This food to be estimated in quantity and quality per pound of body weight.

If, in this part of the world, one desires a well-balanced diet, he finds it difficult to keep the protein content low enough and the fat high enough. The ease with which protein is palatably prepared and the difficulty of preparing fat, especially for those with indoor occupations, is well known. Yet, it is the indoor class who have most trouble with protein metabolism, and but little or no trouble with fat metabolism. This same class uses a diet usually excessive in carbohydrates and protein, and deficient in fat. The common result being carbohydrate indigestion and protein errors of metabolism, with a net result of undernutrition.

In witness of these facts, we have the enormous traffic in starch digestants and various antiprotein campaigns.

The essential nutritive value of fats is that they furnish energy to the body, and weight for weight more than double the units obtained from carbohydrate or protein.

Fat, in the diet of natural selection, is 8.3 per cent of the total food weight, but it furnishes 16 per cent of a day's total energy needs, hence it is economical.

The carbohydrate in the blood and in the liver is the emergency or instantaneous

7. Von Noorden—Inanition and Fattening Cures, page 75.

energy giver. The fat (chyle fat) in the blood remains there some considerable time, being slowly picked out by the tissues which can use it in their metabolic processes. Any excess is stored in adipose tissue as fat, to be drawn upon in case of need; the larger the supply of fat, the more effectively will the protein tissues be protected from destruction.<sup>8</sup>

Besides serving as a protein saver, fat is both protective and productive of body heat; it best prolongs a satisfied appetite, and has a negligible residue of water and carbon dioxide. It is only when fat ferments that molestation of the kidneys can occur from its end products.

The interesting question of fat therapy can only be mentioned in a few of its leading principles.

Fat being the greatest protection against the loss of caloric force, it is indicated whenever caloric losses are rapid and prolonged. I give the largest possible amounts of fat in the typhoid diet, with most gratifying results.

In nursing mothers who commence to lose weight and strength as the child becomes more vigorous, fat, in quantities as high as 250 gm. per diem, can be given with a liberal milk and starch diet, with most astonishing gains in strength and weight. In tuberculosis and diabetes, a food of high caloric value is of the utmost service. On account of the frequency of gastric troubles, 100 to 150 grams of fat per day will be the maximum quantity tolerated in tuberculosis.

In feeding diabetics, an important point is to be gained by playing a high fat content against the highest possible carbo-

hydrate content in the presence of a low protein; by so doing an acidosis is attacked by means of the increased carbohydrate and the smuggled-in fat becomes a valuable protector of the endogenous protein.

An examination of the literature shows a great many writers advising against fats in gastric and intestinal diseases. This is a mistake, for properly used fats are hereof great service. Von Noorden,<sup>9</sup> says, "Nowadays we are afraid of abundant fat feeding in gastric and intestinal diseases, only in cases suffering from true inflammatory processes about the stomach or the upper section of the intestine, or in cases in which disturbances of the fat absorption are definitely demonstrable."

Combe<sup>10</sup> gives fat with milk as an anti-putrefactive.

A fat like olive oil, or butter, or cream, is of signal value in reducing gastric acidity. The work of Cowie and Munson<sup>11</sup> shows that oil lowered hydrochloric acid acidity from 36.4 to 22.4 and total acidity from 51.3 to 35.5. The test involved 310 meals and 170 controls.

In the great class of nervous diseases belonging particularly to the neurasthenic type where undernutrition is a significant bugbear, little, if anything, can be done for many of these individuals until a state of hypernutrition is attained. Here high fat feeding is indispensable.

In conclusion, it must be said no other food requires so careful an investigation of individual peculiarities in each patient as fat.

9. Von Noorden—*Inanition and Fattening Cures*, page 89.

10. Combe—*Auto-intoxication*, page 244.

11. Lotz—*Wisconsin Medical Journal*, May 1911.

8. Howell—*Text Book of Physiology*, page 874.



## DISCUSSION

A. W. HEWLETT, Ann Arbor: What form of fat is given in large quantities?

MARY WILLIAMS, Bay City: I have been in the habit of giving a good deal of cream, but I always dilute it. I think to a half-cup of cream I always use a cup or a good half cup of boiling hot water. I have, for a good many years, used a good deal of cream, and it works well in that way. Very seldom do you get any bad digestion.

JAMES E. DAVIS, closing: In reply to Doctor Hewlett's question, I might illustrate by a case I had last night. This patient, fifteen years ago, was living in Bulgaria, and in his particular part of the country, they had a great deal of fat to eat. I asked him what kind of fat. He said mutton and pork, and said that he dated his present stomach trouble from that time. He blamed all of his troubles in the last fifteen years to too much fat in his diet while he lived in Bulgaria. Inquiry as to his present diet showed a very great excess of carbohydrates. When I found that he was rather fond of olive oil and disgusted with other fats taken in excess, I naturally placed him upon the natural oil, beginning gradually, of course, and telling him to increase as rapidly as he could. By progressing in this manner a correctly balanced fat portion can be added to the diet. The point to be made first, is to find out the preference of the patient, and then begin gradually, selecting, if possible, the fat with the lowest melting point. Cream is an admirable form of fat; so also is butter, and if a person is fond of eating olive oil, this form of fat is to be preferred to the cream or butter.

One other point in the successful feeding of fats is, as I have already mentioned in my paper, to combine as much fat with the carbohydrate as is possible, being careful that we are not feeding, at the same time, an excessive amount of protein, or it is often better, when we intend to raise the fat content, to lower the proteid. I would say, lower the protein possi-

bly to 75 or even down to 50 grammes per day, from the ordinary 100 or 115, or whatever it may be. In this way I think we can succeed, usually, in using very large quantities of fat where it is desired.

DOCTOR WILLIAMS, Bay City: I would like to ask if you do not find that olive oil passes through the intestine without being absorbed at all?

DOCTOR DAVIS: That is true. If you are using too large quantities of olive oil, you will, in some instances, have to use it in salads, using only a limited amount of the pure oil. One will find a very great difference in the amount of olive oil that can be digested after the patient has been on the olive oil for some time.

DR. WILLIAMS: In taking olive oil on a salad, of course, a salad is usually a very indigestible concoction. Why isn't it better to take your olive oil in hot water, or something in the oil?

DOCTOR DAVIS: In regard to the salad, you must, of course, seek other means of giving olive oil than by the use of salads, but salads with olive oil are not always hard to digest. A great many people can digest them very easily.

DOCTOR WILLIAMS: Why isn't it better to combine your vinegar or lemon juice with the olive oil.

DOCTOR DAVIS: Using the lemon juice or vinegar, I presume, is a convenient way of disguising the taste of the oil, but most individuals will prefer a salad mixture and will succeed best upon it.

DOCTOR WILLIAMS: Well, it would, I presume somewhat disguise the oil.

DOCTOR DAVIS: I think the question resolves itself into one: "How can the patient best take the fat you want to give him?" Ascertain this, then go ahead, and, if you find that it is necessary to disguise the fat by combining it with a carbohydrate, give it that way.

## THE STATUS OF THE CARBOHYDRATES IN THE DIGESTION OF INFANCY.\*

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Owing to the time limit imposed upon this paper, I shall confine my discussion to the role of the carbohydrates in the nutrition of the bottle-fed infant. From the least considered of the several elements entering into the infant's diet, the carbohydrate stands today, if not the most important, at least the most interesting of the infantile food ingredients. For years, based upon the teachings of Biedert, the proteid held front rank as the active factor in the nutritional disturbances of infancy, "curds, colic and constipation" forming the symptom complex of proteid indigestion. Followed the classical researches of Czerny and Keller on "milk food injury." This masterful study attacked the problem of digestive error, not from the standpoint of pathology, which has served to throw so little light on this phase of pediatrics, nor from the standpoint of bacteriology, which has served to place only a part of the responsibility for intestinal disease, but from the standpoint of metabolism. Their recognition of the increased elimination of alkalis, producing a relative acidosis, gave a new direction to pediatric investigation, and a series of chemical-clinical studies followed, which have quite altered our conception as to the etiology of intestinal disease. They called attention as well to the so-called "starch food injury," due to over-feeding with this form of carbohydrate,

producing no single distinctive clinical symptom, such as the fat soap stool, but, to their minds, constituting a distinct clinical entity characterized by a soft brown acid stool, which showed the iodine reaction, fresh color of the skin with subsequent pallor, altered turgor, meteorism, stand still and loss of weight, etc., probably on the basis of nitrogen, chlorine and sodium hunger. Further research indicates that what Czerny and Keller saw is not a distinct single condition but comprises, in fact, several conditions. Finkelstein and his school took up the metabolism study and carried it towards its logical conclusion. L. F. Meyer took a series of infants not thriving on cow's milk. With carefully controlled technic, he fed one series of these on the curd of mother's milk suspended in a menstruum of cow whey; a parallel series he fed on cow curd in a medium of human whey. The infants of the first series continued to do badly, those of the second went on to immediate recovery. This so-called "austausch experiment" served as a basis of a research which finally demonstrated the active principle operative for harm in artificial feeding to lie in the whey of cow's milk—the sugar, the salts and the whey medium itself. At this period, Finklestein and Meyer showed that by the gradual addition of sugar to an inactive base in the infant's feeding fever can be produced in the same general manner as the well known salt fever is brought about, form-

\*Read at the forty-sixth annual meeting of the Michigan State Medical Society, Detroit, September 27, 28, 1911

ing the basis for Finkelstein's Alimentary Fever. These researches were crowned by a masterly clinical and chemical study, resulting in the recognition of alimentary intoxication. On the basis of a preceding intestinal or nutritional disorder—infection, dyspepsia, balance disturbance or alimentary decomposition—there occurs an intoxication of alimentary origin. The clinical symptoms of cholera infantum present themselves with the cardinal symptoms of collapse, disturbed sensorium, febrile temperature, marked fall in weight, toxic respiration, diarrhoea, rapid pulse, leucocytosis, albuminuria, cylindruria and glycosuria.

That this glycosuria is of alimentary origin is shown by the fact that on withdrawal of the food the fever immediately falls and the sugar disappears from the urine. If, at this point, sugar is added to the diet, the temperature and other symptoms recur and glycosuria again obtains. This, you will observe, is our cholera infantum, probably the result of deranged metabolism and the absorption, through damaged intestinal epithelium, of toxic acids of lower fatty or bacterial nature, the condition permitting or causing absorption being probably osmotic, enzymatic and bacterial in origin. It has been shown that concentrated sugar solutions increase the permeability of the bowel membrane to bacterial toxins.

A well recognized condition is that of dyspepsia, due to a variety of causes, among which sugar is important. With the nicety of a test tube experiment, one may take a healthy infant and by feeding him a sugar solution, characteristic dyspeptic diarrhoea can be produced. By feeding, at this stage, milk curd, the stool can forthwith be bound to a fat soap stool, and by returning to sugar solution, the dyspeptic stool is forthwith produced again and the experiment permits of

control which excludes other causes.

We find here the explanation of certain of our long drawn out summer diarrhoeas and febrile conditions where actual enteritis does not exist, the early addition of untoward quantities of carbohydrate, i. e., sugar, to the convalescent diet, producing local dyspeptic symptoms, alimentary fever or actual systemic intoxication. As to the occurrence of dyspeptic stools, let it be understood that the carbohydrate medium furnishes the proper soil for bacterial fermentation. A different intestinal flora exists in the intestine, under a carbohydrate regimen than under a proteid one; the latter, in fact, acts antagonistically to the former.

It is now known that the infant is born with its starch splitting enzyme already formed. Whether or not this exists in a useable form we do not know and, practically, it is well to avoid the addition of starch to the infant's diet until after the third month, although some authors recommend this as early as the third to the sixth week. This fact is emphasized, owing to the not unimportant value in infant feeding, of mixed carbohydrates. On somewhat empirical and unproven theoretical grounds, we have employed barley water, oatmeal water, etc., as diluent in milk mixtures.

The fact remains that the infant enjoys better intestinal digestion and grows more readily on the addition of a starch to the already employed sugar. Ultimately, the starch probably becomes sugar and is, as such, absorbed and assimilated. It has been the experience of all of us that many an infant does better on a maltose dextrin than on sugar alone. A most useful procedure in the case of a child that is receiving its quantitative and qualitative food requirement and refuses to continue to gain in weight, or reacts with constipation, is to add 10 grams of ordinary wheat

flour to the day's feeding. The almost specific effect of Keller's malt soup in milk food injury, or balance disturbance, is, no doubt, due to maltose plus flour. The very practical and successful Holland buttermilk diet contains sugar and flour, and successful skimmed milk feeding is due to high sugar and proteid and low fat.

As to the choice of sugars, we may profitably limit ourselves to lactose and maltose. Lactose has fallen, of late, into a certain, probably undeserved, disrepute. Certain it is, however, that it leads more readily to fermentation disturbances than does maltose, produces glycosuria after much smaller doses than does the latter, and more frequently produces sugar fever. Saccharose is permissible. Pure maltose, on account of its cost, is impractical. Maltose dextrin is today, probably, our best sugar and, no doubt, owes part of its superiority to the contained dextrin. Lactose may be used with impunity in the case of a well child but maltose is the sugar of choice in infants with alimentary derangement.

The role of the carbohydrate in metabolism is today only fairly well understood. Proteid and fat are, without a doubt, conserved through carbohydrate ingestion. By proper carbohydrate addition, one can always produce an increase in weight. Given an indifferent medium, (say albumin milk), carefully controlling all other factors, with the addition of one per cent of sugar, a definite increase in weight occurs, followed by a weight stand-still. At this point, the addition of another one per cent is followed by a proportionate increase, and so on, in step-like ascent, up to the addition of five per cent, which is the average maximum addition employed. At this point, as before indicated, one per cent of flour produces another rise. This increase is explainable through the retention of water and subsequent fat formation. The

water retention is, no doubt, due, in part, to the fact that glycogen is stored up in the tissues with two or three times its volume of water. Within limitations, the greater the percentage of sugar in the food, the greater the tendency to fat formation in the body. But it is only in the presence of undisturbed carbohydrate metabolism that fat is burned to its end products of  $\text{CO}_2$  and water. Otherwise intermediate bodies present themselves (oxybutyric acid, diacetic acid, acetone) and acidosis results.

This, again, is shown by the increased  $\text{NH}_4$  output. Diminished nitrogen excretion evidences the conservation by the carbohydrate of the proteid.

The carbohydrate as well plays a role in the body temperature production. As before indicated, over-feeding with sugar produces an alimentary fever, whereas with deficient carbohydrate, subnormal temperature exists, as in alimentary decomposition.

Untoward carbohydrate feeding may be productive of the so-called starch food injury, dyspepsia, intoxication and alimentary decomposition. The relationship of carbohydrate to rickets and scurvy is not understood but probably exists. A relationship exists to the spasmophilic diathesis. The child with convulsive, eclamptic, or tetanic tendency, with recurrence of spasms on the exhibition of as much as a teaspoonful of milk, or its active element, whey, is today placed on a temporary diet of starch or flour solution with disappearance of the symptoms. A diet over rich in carbohydrate often makes an apparently fat baby, which, on the occurrence of an infection or acute intestinal disorder reacts with immediate and marked loss of weight, as in the so-called cashiered decomposition.

The carbohydrate, as is evident, is absolutely indispensable to proper body



metabolism. What the minimum carbohydrate requirement is has not yet been determined, but the absolute essentiality of this ingredient to growth—water retention, proteid and fat conservation—and to body temperature production is evident. The role played by the medium in which the carbohydrate is administered, the question of concentration and

the inter-relationship and inter-dependence of proteid, fat, carbohydrate, salts, and the menstruum itself are still beyond definite understanding. But the foregoing serves to indicate the present day status of the carbohydrates so far as they affect practical pediatrics.

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#### DISCUSSION

COLLINS H. JOHNSON, Grand Rapids: Mr. Chairman, I have been very much interested in Doctor Levy's paper, because we all have more or less babies to feed. We all have to use what, apparently, is a foreign material in our infant food, and the first objection that usually comes up when we think of feeding a baby with carbohydrate is, there is no starch in the mother's milk, therefore, why in the baby's food. Mother's milk is somewhat different from cow's milk. When we dilute cow's milk, as we have to do, in order to bring the cow's proteid down to a condition that a child will digest, we are compelled to add something to it, and that something, for two or three reasons, is a carbohydrate. In the first place, we think that we ought to give the child the same amount of sugar that the mother's milk contains, and, in the next place, we often have to do more than that. The doctor stated that the various forms or carbohydrate used were milk sugar, lactose, and maltose. A great many men still use milk sugar, but, for several reasons, a great many men are giving it up, largely for the reason that the doctor gives, that it is more fermentable. I think the reason that maltose is used mostly now (which he spoke of) is because it is less fermentable than the other forms, and because a larger amount of it can be given than the other forms of sugar. It is more assimilable. You have got to add, perhaps, a large per cent of sugar to the food in order to get the necessary number of calories, and it is found that maltose can be added in larger per cent than any other form of carbohydrate. As the doctor stated, Doctor Finkelstein has worked out the reason why carbohydrates give trouble, and why fats give trouble. I do not think he recognizes the importance of fat diarrhoea; and the fact that it comes from dyspepsia. Diarrhea in a child that some of us might call fat diarrhea, I would still

classify along with his carbohydrate or his sugar dyspepsia, and he attributes them all to the effects of salt on the intestinal epithelium. He admitted to me that his whole system was founded on theory. No pathological examination had ever proven the correctness of his theory that the intestinal epithelium is so injured by the salt of cow's milk that it is rendered unable to absorb carbohydrates in the usual amount. Primarily, he lays the trouble to the salt; and as Doctor Levy stated, he has many times produced cholera infantum by giving the child six-tenths of one per cent of salt, and then, after the intestinal epithelium has been injured by the cow's milk, after the experiments were made which the doctor spoke of, of coagulating cow's milk with whey, and giving one child the coagulum from the cow's milk and the liquid from the mother, and then reversing that problem, one would be made ill and the other would go on to recovery. In that way, he thinks he has proven his theory that the real damage is done by the salt in the cow's milk. It is interesting to see how the pendulum is swinging from bacteriology to chemistry every day. You hear bacteriology spoken of very little in the intestinal conditions of children. I remember some years ago when Keating's Encyclopedia came out. The article on summer diarrhoea was written by Doctor Vaughan; and I said to Doctor Vaughan one day: "How under the sun did they come to select you to write the article on summer complaints in Keating's Encyclopedia; you, not a children's specialist, but a bacteriologist?" And he outlined the reason to me, that because he was a chemist and bacteriologist, his pathology was based on bacteriology. He classified the causes of the summer diarrhoea from that point of view. I think that classification has been adopted, generally, since that time. That is almost ignored in Berlin at the present time,

and the chemical side of the inquiry is in the front, the bacteriological contamination of milk playing a secondary role.

I heard Finklestein say that until the present time, until he got to work along the lines that he is working on, (although every drop of milk is still boiled in Berlin, and has been for years,) mortalities from summer diarrhoea had not dropped one single per cent. The mortality, as our secretary stated in a paper that he read in Grand Rapids a year ago, has now been reduced from seventy or eighty per cent to twenty per cent, working out simply on the theory that the salt and sugar of cow's milk is what does the trouble. No doubt, some of the gentlemen with us will speak a little more in detail about his specific treatment, his own treatment that he has worked out for summer diarrheas. I believe that a man, to work out Finkelstein's ideas, has got to go to Berlin and see him work. I do not believe any one will get his ideas down so that he can, under all conditions, treat a case as Finkelstein and his school do. I know men in this country that are using his method today, and they have bad results, and they say: "O, pshaw! I have used that kind of milk for a week or six months, and it is no good; I did not get results." I feel in my own mind like saying that the men did not use it properly. One cannot go there and follow his work along, without coming away with absolute conviction that there is something of great value there in the matter of infant feeding.

F. E. RUGGLES, Bay City: I have been very much interested in Doctor Levy's paper, and also in the remarks that have just been made by Doctor Johnson. It is really quite wonderful how every person who attends a clinic of Finkelstein's in Berlin becomes converted to the Finkelstein method of feeding. It was my privilege to be one of those who attended one of his clinics, and the problem of feeding infants has been a changed one ever since I had that experience. I should like to speak of one factor, and that is the factor of heat in the production of these diarrheas.

Finkelstein says that death from cholera infantum should not be classed as death from summer diarrhea, but as death from heat stroke, and that the cause of the difficulty of absorbing or assimilating the sugar, as a result of the heat, is due to a change in metabolism that is caused by the heat. It is a metabolic change that occurs that renders the sugar a poison to the child.

In a recent number of the *Journal of Children's*

Diseases published by the American Medical Association, I was very much interested in the literature along this line. Some of you may have seen it. It goes to show that heat is the direct factor in the causation of the diarrheal diseases of children, and the statistics carry the weight of conviction with them. For instance, in Dresden the statistics showed that a large majority of the cases of diarrheas of children occurred in the congested districts along the river Elbe, which is the lowest part of the town, in just a very few city blocks, and the entire rest of the city contained but a very few of these cases. Elsewhere the same results were shown. Families living in basements had a small percentage, perhaps seven or eight. Those living on the ground floor, where it was hot in the street, and where they got little air, I think it was in the neighborhood of fifty per cent, and on the second floor, perhaps ten per cent, and on the fourth floor where they got plenty of air, and it was cool, there were a few cases, but on the fifth floor again, where they were under the roof the number of cases jumped up, showing the direct etiological factor of heat, which, according to Finkelstein's theory, changes the metabolism of the child so that it can't use the sugar in the food. In the hospital, I saw a number of cases in which the diarrheas were produced by over-heating the child by hot-water bottles placed too close to them; they got a heat stroke. It has been mentioned that the production of these cases, and the curing of them with a chemist's precision, just as though it was in a test tube, is quite remarkable.

R. S. ROWLAND, Detroit: I have been very much interested in Doctor Levy's paper. It appears to me that it is very technical and difficult to express in a section where the members are, probably very few of them, interested especially in its completeness. Doctor Johnston covered the ground in a general way. As we know, in following along our cases, at one time the proteids were considered the principal trouble in these cases. Then we believed, later, that the fats were the principal cause. It has been most interesting to me to arrive at the conclusion that there is a great deal in this work of Finkelstein's. It has been an education to me just in the past summer, to feel that I have made discoveries in treating my babies that I had not appreciated before. Through Doctor Levy, and our Walker Laboratory, I have been able to use Eiweiss milk on a considerable number of babies this summer, and I feel confident that we have

a method that did not exist before. The cases that I had are cases (possibly the majority of them) of bowel disturbance and indigestion; but there were secondary cases, possibly due to some other infection. Those cases on the milk always did well, and I had much better success than on the other methods followed. On the Eiweiss milk, these patients did better than they did on the old method of treatment. I only had two cases that would be classed as acute. They were both extreme cases, but they improved rapidly and went from the hospital practically cured. I have had only one case of trouble, and that was with a case that seemed as if it was not going to get well, but that case is improving on the Eiweiss milk.

In regard to the different forms of carbohydrate used, lactose and maltose, I always used milk sugar up until possibly a year or two ago. But I have now used the malt sugar almost exclusively and I feel that I get better results than I do with the milk sugar.

In conclusion, I would like to ask Doctor Levy to tell what his experience has been with Eiweiss milk. He worked in the Finkelstein clinic for some time, when they were perfecting this method of treatment, and I think he can give us some very interesting facts, and more definite ones that I should like to hear.

H. M. RICH, Detroit: I would like to say in regard to Doctor Levy's paper, that the summer diarrheas that so often come to us of late are the result of using proprietary foods. The Eiweiss milk is a very practical thing in the treatment of a large percentage of summer diarrheas.

CHAIRMAN SHEPARD: I would like to ask one or two questions of Doctor Levy. I am interested in the progress of the subject from a bacteriological standpoint, especially. According to Harper of New York, the ordinary bacillus in the intestine of the nursing is the *lactis cyanogenus* bacillus, the colon bacillus, and then, as you come into the lower bowel, that is, near the caecum, the *bifidus* appears; and almost pure cultures, he claims, reach the rectum. Then, he claims that the saccharo-butyric fermentation is due to the *bacillus aerogenes capsulatus*. I wondered if Doctor Levy has made any special research along that line, or has anything to suggest on what has been found in the studies that he has made. Harper claims that this is the principal bacillus of saccharo-butyric fermentation.

D. J. LEVY, closing: In regard to the theo-

retical nature of Finkelstein's work, as brought out by Doctor Johnston, of course, the work is partially of a theoretical nature, and partially of an intensely practical nature; but whether or not the Finkelstein theory is correct, it is quite plausible. The important fact to us is that the methods based on the Finkelstein theory are productive of results, and that, maybe, is the best test. When Prof. Finkelstein took charge of the hospital in Berlin, there was a mortality of about 70%. Under his direction, in a short time, the mortality was reduced to about 20%, and this last year it was as low as six or seven per cent.

During the six months that I had the privilege of serving in his clinic, with a number of thousands of infants, practically all feeding cases, I saw only three deaths, due to nutritional disorders, two brought in with advanced atrophy, and the other a case of pyloric stenosis; the other cases making up the six per cent being meningitis, tuberculosis, pneumonia, etc. On a visit in March, Prof. Finkelstein said that the problem of infant feeding in his clinic had ceased to be a problem, and the results are very largely (I do not say entirely,) due to the albumin milk therapy that several of the gentlemen have spoken of. The albumin-milk consists of the casein of a liter of milk finely divided, and suspended in water up to a liter, to which is added a half liter of buttermilk. This contains all the proteid of cow's milk, two-thirds of the fat, one third of the sugar, and about one-third of the salt, all contained in an inert medium, water. If this food be given according to its indications, and the medium be properly prepared, the same results can be obtained here as are produced abroad. I have seen some very successful work here by some of those who have spoken this afternoon, with the Eiweiss milk feeding. The important thing is to feed according to the rules laid down by Finkelstein and Meyer, and not be afraid of the character of the stools produced.

Let me particularly emphasize what Doctor Rowland brought out, that in some cases we have a frequent profuse stool, containing curds, mucous and that sort of thing, which, so far as nutrition itself is concerned, has very little significance; that is to say, the disturbance lies outside of the intestinal tract; not inside. Where there has been a damage to the intestinal epithelium, complications may be feared in the form of alimentary intoxication, alimentary fever and that sort of thing.



## THE DIETETIC MANAGEMENT OF DIABETES.\*

M. A. MORTENSEN, M. D.  
Battle Creek, Mich.

At best, the management of diabetic patients is a difficult problem. The dietetic part of the therapy is of prime importance, and, at the same time, the most difficult to control unless the patient is of more than ordinary intelligence and is master of his appetite. Very few people realize that the body requires proteid, fat and carbohydrate to maintain its nutritive equilibrium, and much less do they know where to obtain these food elements in proper proportions. If the patient can be made to understand some of these important points in the physiology of nutrition, then it is much easier for him to intelligently co-operate with you in following your diet prescription. My experience in dealing with a series of 38 cases of diabetes has impressed me with some of these difficulties in obtaining the cooperation necessary, as well as the fact that the management of the diet is a matter of the utmost importance.

Census statistics show that diabetes is on the increase in this country. In 1850, 0.9 cases per 100,000 were reported and in 1911, 9.3 cases per 100,000, almost a ten-fold increase in 50 years, and it is improbable that all this difference can be accounted for by more accurate diagnosis and improved statistical reports. With this increase in the occurrence of the disease, the importance of more thoroughly understanding its management increases proportionately.

\*Read at the forty-sixth annual meeting of the Michigan State Medical Society, Detroit, September 27, 28, 1911.

Diabetes is pre-eminently a disease of disturbed metabolism, and, in forming an opinion of the patient's condition to determine the diet prescription, it is essential that as much as possible be learned about the metabolism. Too many of us have been satisfied with simply knowing how many per cent of sugar have been excreted in the urine and, with this knowledge, go ahead and prescribe the diet. Knowledge of the amount of sugar, of course, is very essential, but we must also investigate the proteid metabolism, to determine if acidosis is present and to what extent. The amount of ammonia excreted is very important because, in the majority of cases, the amount indicates if acidosis is very marked and if coma is threatening. The acetone and diacetic acid should be estimated quantitatively, if possible. The amount of oxybutyric acid is estimated with considerable difficulty, being a rather long chemical procedure, but Von Noorden and others claim that the amount of ammonia excreted indicates approximately the amount of oxybutyric acid according to the following scale:<sup>1</sup>

- 2 grams of Ammonia equal about 5-8 grams Oxybutyric Acid.
- 5 grams of Ammonia equal about 20 grams Oxybutyric Acid.
- 8 grams of Ammonia equal about 36-40 grams Oxybutyric Acid.

Of course, all these estimations must be based on twenty-four hour collections of urine, and, with this data, we have a fairly accurate knowledge of the metab-

1. Zuckenkrankeiten Von Noorden's, 1911.



olism and know with what we have to cope. We know whether the patient is threatened with coma, or whether the acidosis is only of a moderate severity, a fact that cannot be determined from the percentage of sugar alone. To illustrate: I had one patient with an elimination of 231 grams of sugar in 24 hours, a trifle over 8%, but with only a faint trace of acetone and one gram of ammonia, indicating practically no acidosis; and another case with 125 grams of sugar or 4%, but with 4.2 grams of ammonia, 1 gram of acetone, 1.6 grams of diacetic acid, indicating rather marked acidosis. The simple percentage of sugar would lead us to think the first case the severe one, when, as a matter of fact, the sugar was entirely eliminated from the urine in a couple of weeks and the second case was but slightly benefited, and continually on the verge of developin coma.

During the last decade, a great deal of investigation has been made of the body metabolism, and Von Noorden of Vienna, is one of the pioneers in the study of diabetes. In the management of diet, he emphasizes the necessity of a thorough knowledge of all the above mentioned factors. Benedict and Joslin<sup>2</sup> of Boston, are also convinced, from their investigations, that a thorough knowledge of the metabolism is essential in order to do the best possible by your patient. They have proven that in diabetes there is a decidedly increased metabolism. Falta<sup>3</sup> and others have shown that in the dog with extirpated pancreas, the oxidation processes are very much increased, so much so that the nitrogen metabolism is as much as three times the normal and the oxidation of fat very much accelerated. Eppinger<sup>4</sup> and Falta advance the theory that this increased metabolism is due to the loss of pancreas inhibition on the

thyroid, thus accelerating the action of this gland on the metabolism. The result is a marked loss in weight due to loss in proteid and fat constituents of the tissues, greater than can be accounted for by the loss of the sugar excreted. Practically, all are agreed in accepting the pancreas as the seat of the cause of diabetes, and that it is due to some change in quantity or quality of the internal secretion of the pancreas. As to how this change in the internal secretion causes diabetes there is still much speculation, but the most reasonable theory is that it disturbs the equilibrium between the internal secretions of the body. Biedl, Falta, Eppinger and others have shown that the secretions of the thyroid, adrenals, and pancreas are closely related, and any disturbance here manifests itself in a distorted metabolism. In addition to these, it is possible that the muscle juice also has some influence. O. Cohnheim<sup>5</sup> discovered that pancreatic extract and muscle juice together exhibited decided glycolytic power on solutions of dextrose, while separately, they had no effect whatever. This led to the idea that, in diabetes, the muscle secretion or juice played some part in causing the disease. Crofton,<sup>6</sup> Sewall<sup>7</sup> and others have made clinical use of this theory by giving pancreatic extract and muscle juice, with apparently good results in some cases. I am convinced that a loss of balance between some of these internal secretions is an important factor in causing the distorted metabolism of diabetes, but, up to date, our knowledge of the exact function of these secretions on the chemistry of the body is far too limited to know just how to restore the balance and improve the metabolism.

2. Metabolism in Diabetes. Benedict & Joslin, 1910.

3. Inner Sekretion, P. 384, Biedl. 1910.

4. Ibid, p. 385.

5. Hoppe-Seylers Zeitsche fur Physiol. Chemic. 1903, p. 336; 1904, p. 401; 1906, p. 253.

6. New York Med. Jour., LXXIX., 882.

7. Is there specific treatment for Diabetes? Am. Jour. Med. Science, Sept., 1911.

Glycosuria, in a strict sense, is only a symptom, and, as a rule, when we use the term, we mean only the transient elimination of sugar in the urine, the result of excessive ingestion of sugar or other carbohydrates. In such cases, the liver must be considered a glycogen storer, but crippled in this function, or overloaded. In some cases where this transient glycosuria appears frequently, we often find that the liver is cirrhotic. This condition may also involve the head of the pancreas, but, of course, then the glycosuria is apt to be persistent, and then we have, as a rule, a mild form of diabetes. In the treatment of these cases, the liver must receive special attention rather than the diabetes.

In true diabetes, the diet is, after all, the most important part of our therapy, and will always remain so unless a specific remedy is discovered to restore the disturbed equilibrium of the internal secretions and metabolism. In the dietetic management of diabetes, we must remember that sufficient food must be given to supply energy, not only for the tissue needs, but also for the waste in the urine. Every gram of sugar excreted means 4.1 calories, and each gram of oxybutyric acid a loss of 4.4 calories, so that a patient eliminating 150 grams of sugar and 20 grams of oxybutyric acid is losing over 700 calories. There are, in addition, other sources of loss, such as the heating of the large quantities of urine excreted. In view of all this loss of energy, it is well to conserve energy as much as possible, by protecting from undue exposure to cold. The severe cases should be warned against too much exercise, and the very weak patients should be kept in bed so as to diminish metabolism as much as possible.

The object of treatment is to increase the tolerance for carbohydrates and thus lessen the waste in the urine. Before

prescribing a diet, the tolerance should be carefully determined, and also at frequent intervals during treatment. This must be done carefully so that, from time to time, we may know exactly how much carbohydrate is utilized and, by comparison, know if there is any progress. If the patient eliminates more sugar than ingested, then we know that some sugar is produced from the complex proteid molecule and we have a severe form with which to deal. At the same time the tolerance is determined, we should also estimate the degree of acidosis. When these factors have been determined, then one of two plans may be adopted. In the one, prescribe a regular allowance of carbohydrate and, at intervals, estimate the tolerance and vary the prescription accordingly, which I find works very well in patients with no acidosis and over 45 years of age; the other plan is to follow the regimen worked out by Von Noorden, consisting of frequent variation in diet by the introduction of vegetable, or fasting days, and oatmeal days. During the past two years, I have been using this plan in nearly all my cases with decidedly more satisfactory results. The green or vegetable diet, as outlined by Van Noorden, consists of broth or bouillon several times a day as desired, any of the green vegetables, such as spinach, lettuce, asparagus, cabbage, artichokes, string beans, cauliflower, etc., in form of salads, or boiled and prepared with an abundance of good butter. Of the proteids, only 3 to 5 eggs and 3 to 5 yolks and bacon are permitted. The object is to give, as nearly as possible, a carbohydrate free and low proteid diet, in order to free the tissues, as nearly as possible, from glycogen. The patient should keep in bed on this diet if weak, and, in any event, cautioned against exercise of any kind, and, in case acidosis is marked, the use of alcohol may be of value.

This diet is usually given one or two days at a time and, as a rule, practically all the sugar disappears from the urine except in the very severe cases. As a rule, the acidosis is slightly increased and, where this is very marked, care must be used in prescribing this diet, especially if the patient has had a liberal allowance of carbohydrate. In such cases, the carbohydrate allowance must be gradually reduced and, if acidosis does not in-

be given, or some vegetable albumin, such as pure gluten. According to VonNoorden, it is very essential that no meat albumin be given during the oatmeal days, nor should any other form of starch be allowed. The oatmeal cure should be continued from 2-4 days, and followed by a few days of ordinary diabetic diet with prescribed allowance of carbohydrates, varying according to the patient's tolerance, or the vegetable days may be repeated.

Date 1910	DIET	Carbo- hydrate gms.	Quantity Urine c.c.	Nitrogen gms.	Ammonia gms.	Sugar gms.	Diacetic Acid gms.	Acetone gms.
11-19	Restricted* . . . . .	125	2000	12.60	.979	42.46	1.088	.193
11-20	Restricted* . . . . .	100	1400	12.43	.866	48.30	.881	.217
11-22	Green . . . . .	25	1250	10.95	.774	20.54	.255	.350
11-23	Oatmeal . . . . .	200	1625	10.65	.707	55.14	.526	.173
11-27	Restricted* . . . . .	125	1600	11.71	.816	38.83	.517	.155
11-28	Green . . . . .	25	1150	10.48	.688	13.95	.215	.145
11-29	Oatmeal . . . . .	200	1500	10.53	.663	24.45	.484	.145
12-4	Green . . . . .	25	1360	7.83	.703	21.13	0	trace
12-5	Green . . . . .	25	1150	9.42	.727	8.28	0	"
12-6	Oatmeal . . . . .	200	1450	8.70	.601	39.59	0	"

\*Days from one Oatmeal day to next Green day patient was on a Restricted diet of 125 gms. carbohydrate.

crease, then the green diet may be used.

After one or two days on the green or vegetable diet, the oatmeal cure should follow. On the basis that carbohydrate is the best thing to stimulate toleration for the same, a liberal quantity of oatmeal is given. I usually give from 200 to 250 grams of oatmeal a day, equalling 800 to 1000 calories. The oatmeal is prepared in the form of strained gruel or porridge, with an abundance of butter. In addition to the oatmeal and butter, 3 to 5 eggs may

Von Noorden<sup>8</sup> gives the following precautions in the use of the oatmeal cure:

1. No other form of starch should be given with the oatmeal, otherwise, without exception, the result is unsatisfactory, the glycosuria often showing enormous increase.

2. No meat should be permitted on the oatmeal days. If proteid is given, it should be in the form of vegetable albumin or eggs, and, in some cases, eggs seem to

8. Zuckerkrank, 1910. Von Noorden, p. 316.

inhibit the favorable action of the oatmeal.

Blum<sup>9</sup> of Strassburg, has recently reported a series of cases where he has used wheat starch instead of oatmeal with similar results. He used the same variations as outlined by Von Noorden.

In the moderate cases of diabetes, the tolerance is decidedly increased by this regimen in a comparatively short time, and, even in the severe cases, satisfactory improvement is often made, but, of course, the treatment must be carried on for some months, as a rule. My experience convinces me that this method of managing the diet gives the most satisfactory results in the shortest time. In the cases of marked acidosis, extreme care must be used in withdrawing the carbohydrate too suddenly as this greatly increases the danger of fatal coma. We are also apt to be misled if we depend too much on the amount of sugar in the urine as quite frequently this drops suddenly, just before coma develops. If symptoms of coma are present, it is advisable to give carbohydrates freely, preferably oatmeal gruel, or levulose in form of lemonade. Balint<sup>10</sup> recommends sugar solution by enema in the treatment of extreme acidosis. Bicarbonate of soda or sodium citrate

9. Munch. Med. Woch., July 4, 1911.

10. Berlin Klinisch. Woch., No. 34, 1911.

#### DISCUSSION.

DOCTOR WILLIAMS:\* During the course of this afternoon's work on the consideration of carbohydrates in the digestion of infancy, and the question of diet in diabetes and glycosuria, there seems to be a distinct relationship, and I think many of the same things can be said of one as of the other. For instance, I think that anyone who has carefully observed the causes of carbohydrate intoxication in infancy, and cases of diabetes, will agree that there are questions of relationship. I think too many of our patients have been too extremely treated; that the term "carbohydrate" and the term "pro-

teid" does not mean that all proteids and carbohydrates are equivalent as far as their digestibility and use in the body are concerned. I certainly think that the oatmeal is, and that the proper use of carbohydrates in the feeding of diabetes, is of great importance in keeping up the body weight which is a matter of the utmost importance in diabetes.

Next to the control of the carbohydrate, comes the judicious use of albumins. This is especially important where, on a carbohydrate free diet or fasting day, there is still considerable sugar in the urine. I have already called attention to the exclusion of meat from the oatmeal days, and, in the severe cases, it is well to remember that all forms of albumins are not equally well tolerated. Von Noorden has found that casein and meat from cattle and fowl are least tolerated, next fish albumin, then egg, and, best of all, vegetable albumins. Of course, the average case of diabetes tolerates a liberal allowance of all forms of proteids, but, in the severe cases, the quantity should be limited, and the more easily tolerated forms should be chosen.

With reference to the fats, little need be said, as they are well tolerated, as a rule. It is probable that acetone is derived from the fatty acids, hence, with increasing acetonuria, the amount of fat should be reduced. It is also well to examine the stools for excess of free fat and fatty acids, and, of course, if large amounts of free fat are found, then the fat allowance should be decreased.

A VOICE: I have had some practical experience with a very serious question, that has been productive of good results, particularly so far as acidosis is concerned. In regard to the oatmeal therapy, where there is a condition of acidity, I would suggest the addition of wine or

\*Address and initials not obtained. [Editor].



alcohol in some form with the oatmeal diet. The presence of wine, whiskey or alcohol, in some form, makes the food much more palatable; and, in addition to this consideration, the alcohol itself has a different value—it serves as a food. In one case which I have at the present time, I give from a half pint to a pint of Rhein wine. I obtain three hundred calories per day from this wine; and the wine serves the purpose of somewhat lessening the production of the acetone bodies.

DOCTOR MERRILL: I would like to ask what the prognosis is in a case that constantly excretes sugar from a period of six or eight months.

MARY WILLIAMS, Bay City: I have been very much interested in this disease; and several cases that I have known, I think have been caused by an over-taxation of the nervous system. Probably the nerves were so attacked that it produced a disturbance of metabolism and a disturbance of the pancreatic glands; and then too, in regard to the matter of diet, I have for several years prescribed it myself, and have known of several physicians that have been using the mixed diet. Of course, we used to use an exclusive diet, and I have known some physicians that have used a mixed diet and have not put them on the meat diet at any time, but gave just a little meat each day in order to get a mixed diet, and it has been a very successful treatment.

J. E. DAVIS, Detroit: I want to express my appreciation of this excellent paper. I think it sums up the very best treatment for this trouble. The most important clinical point to be taken in mind is to treat the patient, regarding the general condition rather than the amount of sugar that is being excreted, or the amount of acetone. Von Noorden has shown that some patients are doing very badly when the excretion of sugar is very low. This point has already been brought out in the paper. The whole question, it seems to me, is one of keeping up the nutrition of the patient for a sufficient length of time until the carbohydrate metabolic process can be properly raised. If we are going to have a recovery, it will come after they are properly raised; and the playing from one diet to another, as is the plan on the table here before us, enables the patient to keep up the highest state of nutrition, and that accomplishes the purpose that we are after, keeping the patient going as long as possible, so that the greatest of rest can be secured.

M. A. MORTENSON, closing: I feel that I have not given you anything new this afternoon; but from my experience with this class of cases, I find that a great many of them have been treated with attempts at using something along this line, but that the physician has failed to observe the important points, and, of course, has failed to get the results. Now, I was asked with reference to the preparation of the oatmeal. This is very important. It is not, as a rule, simply what you speak of, as oatmeal mush, that is given to the patient; but the oatmeal is thoroughly boiled and strained, and you get then practically all the carbohydrate from the oatmeal, and in a very smooth, bland condition. With this oatmeal, then, almost an equal amount of good butter is mixed, and it makes a very palatable dish, and it can be given to the patient every two or three hours during the days that they are on this diet.

With respect to the fatty acid in relation to the acetone, an important point is brought out in the use of butter. First, it is practically agreed that the acetone comes from the fatty acids, and especially, the lower acids. Von Noorden states and writes that whenever butter is used, that is made from sour cream, or if the butter has been kept for some time, then we should look out that it does not contain a large amount of butyric acid; and, if it does, this can be removed by washing the butter in cold water, because the acid is soluble. With respect to alcohol, I think it is very important in a case of marked acidosis, and also where the ability to digest fat seems to be limited. The caloric value of alcohol is estimated at about seven calories per gram. I did not get Doctor Merrill's question in the first part of the discussion?

DOCTOR MERRILL: I wish to get your idea as to the prognosis where a case has persistently excreted sugar for six or eight months?

M. A. MORTENSON: That is a difficult question to answer, definitely, because there are so many things that must be taken into consideration, aside from the simple elimination of sugar. I now have a patient under my care who has eliminated sugar, and who has had acetone and diacetic acid in the urine for five or six years. That patient has twice been under Von Noorden's care; and when he went there he was almost in a state of coma, and he is getting better. At varying intervals, he goes on a strict diet for a short time using the green diet followed by a few days on the oatmeal diet, and that keeps

him at a level where he is comfortable; and each year that goes by he is getting better. This man is about thirty-five years of age; and I have told him that every year that goes by his prospects for a reasonable degree of health improve. Now, in regard to young children, that is, individuals under twenty years of age, who have excreted sugar in a large quantity from six to eight months, with marked acidosis, I would say the prognosis is probably very bad; but Von Noorden emphasizes the fact that we must not be discouraged. It requires persistence and patience to deal with these cases; but by a proper manipulation of the diet, it is surprising the results that are obtained.

With reference to the question of the nervous system in relation to diabetes, that is, of course, a matter that has been before us for a long time. But there is no question that some severe nervous shock may bring on diabetes. Now, I do not think that the nervous shock in itself is the cause, but, rather it is the medium of bringing out a condition almost ready to appear. I remember one case where a little boy about seven or eight

years of age had been under treatment for diabetes, and we had been successful in eliminating the sugar, but there was still an acidosis, and thinking there might be lipemia, a blood test was taken, that is, the child was bled, and that shock or that operation on the child brought back the sugar in increased quantities, and it took weeks to overcome that exacerbation. Now it is probable that the recurrence of the sugar was brought on by the effect of the shock on the nervous system of the child.

DOCTOR WILLIAMS: Now, in the treatment of diabetes, would you restrict the amount of liquids taken; water?

DOCTOR M. A. MORTENSEN: My rule in that respect is, simply let the patients drink as often as they want to, but tell them to drink small quantities at a time, because the small quantity of water will quench the thirst just as well as drinking a large quantity, and as a rule, they get along very well with that restriction. I pay very little attention to the amount of water that a patient drinks.

### OCCUPATIONAL DISEASES

A summary of the recent legislation in regard to the reporting of occupational diseases is published by J. B. Andrews, (*Journal A. M. A.*, December 16). In 1911 for the first time in America, six states—California, Connecticut, Illinois, Michigan, New York and Wisconsin—enacted laws requiring physicians to report cases of occupational disease. These laws have much in common, and the diseases usually specified are anthrax, caisson disease, lead, phosphorus, arsenic and mercury poisoning. In Wisconsin, anthrax is omitted, and in Illinois the law is not quite clear in every respect, but seems to cover the usual disorders. In most cases the notification is to include the name, address, place of employment and disease of the patient. Michigan requires, in addition, the length of time of such employment, and in New York such other information as may be required by the Commissioner of Labor. In every state but Connecticut there is a penalty for failure to report, but only in California and Connecticut is a compensation given for reporting.

This pioneer legislation is the result of an attempt to excite interest among medical men, and for this purpose a tentative bill based on twelve years of English experience was introduced into eight state legislatures. In Minnesota action was postponed after it had been passed in one house, and in Pennsylvania it was vetoed on account of an amendment considered to be unconstitutional. Extracts are also given from a leaflet distributed not only to legislators, but to others interested, pointing out the improvements that have been made by legislation on this subject in Great Britain and elsewhere. The state officials are encouraged to add as many facts as possible on the subjects, by special blanks sent out for the purpose or by special investigations. The educational work, it is understood, is only begun by the enacting of these laws, and already in several states much valuable information has been obtained and boards of health and physicians are taking up the study of the subject.

## RESUME OF TWELVE YEARS' EXPERIENCE WITH THE ROENTGEN RAY AS A THERAPEUTIC AGENT\*

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From the time the Roentgen ray was first used as a therapeutic measure, about 1896, even until the present time, its path has been that of many new remedies, which have, at their inception, been hailed as a marvelous panacea for all ills, but which have finally settled into niches of their own in the physician's armamentarium.

As with the opsonic treatment at a later date and even salvarsan at present, the Roentgen ray, ten years ago, was used not only in conditions which could be benefited, but also in those that were positively incurable. It is not just to throw some new therapeutic agent into the scrap heap if it will not cure every case on which it may be tried, but, after the first enthusiasm has died down, employ it for such diseases in which reason and science would indicate that it would be of value. Each method of treatment has its individual class of cases and even individual people where it will produce results which nothing else could do, and, if treatments were carried out with this in view, the new remedies would not be tried for every disease in the book and then completely discarded.

The Roentgen ray, however, while we admit that it has failed in some, even many respects in which great things were expected of it, has still an enormous field of usefulness and, if used cautiously and

intelligently, could be used for even more diseases than at present. Though the Roentgen ray is usually thought of in connection with radiography and not with radiotherapy, its greatest field of usefulness is not in those cases requiring extremely deep penetration, but in those where the action desired should be rather superficial, not alone on the surface but also a very short distance below, i. e., in the true skin. Using the ray in this manner, we have come to employ it for dermatological conditions more than any thing else and it seems there to have its greatest field of usefulness.

From being used indiscriminately, the ray has now come to possess a certain definite therapeutic value in a selected class of cases and the ray is not used for cases which can be cured as easily and quickly by other means. In general, it may be said that the ray is indicated in almost all sluggish, chronic skin conditions in which a deeper and more powerful stimulation is required than could be obtained by other methods. For example, chronic acne indurata, chronic eczema, localized psoriasis, ulcers, epitheliomata involving only the skin, etc., and also a number of other conditions which will be mentioned in speaking of the results obtained by this means. Conversely, it is also true that the ray would be contraindicated in any acute, irritable, dermatological affection, as, in that case, soothing applications would be required instead of

\*Read at the forty-sixth annual meeting of the Michigan State Medical Society, Detroit, September 27, 28, 1911.

stimulating ones. Bearing these general rules in mind, the Roentgen ray is an instrument of wonderful power for good if used properly and cautiously, but it can do an equal amount of damage if placed in inexperienced hands. As a general rule, a new patient is asked if his skin is easily sunburned and his complexion closely observed in regard to pigment production which varies greatly. The first few treatments are governed by the sensitiveness of the skin to the light rays, as some cases would be burned in a few treatments which would have absolutely no effect on others.

Inasmuch as nearly all of the affections treated were limited to the skin, the changes due to the light could be quickly detected, and it was not deemed necessary to have any instrument to attempt to definitely measure the dosage on account of the personal equation and observation.

Using the same tubes on the same class of cases, regulating the spark gap and vacuum of the tube by what experience has taught to be the best, has been the method generally adopted to measure the dosage. The distance of the tube from the patient is constant, but the time of the exposure varies according to the number of treatments already administered. The routine plan of treatment is as follows:

The patient is protected by lead shields on the parts not needing treatment, the tube (self regulating) is then placed five or six inches away from the surface to be treated, the regulator being set (one inch spark gap) to keep the tube at a fairly low vacuum, the intensity of the ray being controlled by a rheostat. The first exposure is begun at three minutes to be on the side of safety, gradually increasing to five minutes, giving the first four treatments 24 hours apart, then every 48 hours, until a marked improvement has taken place, or a mild tanning or

erythema set up, then every third or fourth day, gradually making the intervals longer until a cure is effected. We no longer give daily treatments for any length of time, nor do we give ten to twelve minute exposures, much preferring to produce the same result more slowly but without any danger of causing a burn, believing, in this case, that moderate stimulation is better than a mass dose. This plan is followed as a routine method and it has given uniformly successful results, but in many cases it has had to be varied in some details, but we have, fortunately, been able to regulate our treatment by the reaction shown on the skin.

The ray used was formerly generated by a static machine and was very satisfactory when the machine saw fit to run, but it was very erratic and would fail when needed most. There was also held the idea that the ray developed by a static machine gave better results and would not burn so readily. This, however, did not prove to be the case and, as the static was unreliable, the coil and interrupter were substituted and have been used steadily for the past eight years with practically no trouble.

In treatment work, there has been observed a peculiarity about the ray in that there is very often a retarded or cumulative action. It frequently happens that a number of treatments have been given for some condition with no apparent effect, but, if the ray is stopped, the patient later shows a marked improvement even though not being treated. It may even be so with regard to burns as a skin surface may have received enough ray to produce a burn but show no sign until some time later. All these things must be taken into consideration when treating dermatological conditions as well as the fact that patients



are liable to have idiosyncrasies which require careful handling to produce a cure without any unpleasant consequences.

Allen classifies the cases suitable for treatment as follows:

1. Those presenting extensive, denuded, or ulcerated surfaces.

2. Hypertrophic changes in connection with the epithelial process, giving papillomatous and nodular outgrowths, may not respond promptly to the ray treatment and should be removed before the ray is applied.

3. When the process involves rather deeply the skin and underlying tissues, including the bone, the ray should be given the fullest trial, and operative measures be resorted to only when the ray has utterly failed.

4. When there are delicate structures involved which render it difficult to confine the action of a caustic within safe limits, or where operation would certainly entail disfigurement, the ray is to be chosen as the best method available.

5. When an epithelioma in any location has been previously removed by means other than the ray, the latter should be used in removing the recurrent growth.

To this classification may be added chronic dermatological affections which have resisted all other forms of treatment, and which, we have learned by experience, will respond to Roentgen ray stimulation as they will to nothing else.

While the early workers did not realize the potency of the ray, it was soon discovered that it was an agent of destruction, but, if used in mild doses, was a stimulant through its destructive action. This may seem a paradoxical statement but it should be remembered that the ray is used in pathological conditions having both normal and abnormal cell elements, and the destructive action is manifest first on the abnormal cells, stimulating the normal ones to increased proliferation, thus throwing off the pathological tissues.

The first action of the ray is to produce a localized dilatation of the blood vessels and hyperemia of the treated. This is only transitory at first but becomes more

permanent as more treatments are given, or the stage of erythema is reached. Following these effects, comes the proliferation of normal cell elements with destruction and throwing off of the abnormal, which then allows healing to take place. If continued longer, the opposite effect would be produced, atrophy of the skin structures with destruction of the superficial layers, and an X-ray burn. These different effects can be practically produced at will by careful regulation of the treatments and close observation of their effects. Another effect of the ray is to produce a sensitization causing the local resistance to be raised. In the case of pyogenic infections, this may be due to or assisted by leucocytosis, as Crane claims that the ray will cause a general increase in the leucocytes. So that the results produced by Roentgen ray treatment are due to sensitization and increased resistance in the part treated, sterilization of pyogenic organisms, leucocytosis and destruction of pathological cell elements. Bearing these different effects in mind, it will be readily seen later why results were obtained in widely differing classes of cases. The skin is always left smoother, softer and finer than before treatment and, in old acne cases with dilated pores, the glands are partially atrophied and the ducts rendered much smaller.

As is always the case when some particular line of treatment is especially recommended, the X-ray has come in for its share, and even more, of criticism. While so many writers are crying out against the ray on account of inaccuracy of dosage, poor results or none at all, etc., there are some who recommend its use yet deplore the lack of proper measurement, as it must, of necessity, to get the best results, be placed in the hands of experienced men who are constantly using this method. However, in a comparison

of this method with other procedures, the balance is almost entirely in favor of the ray in all the cases which are amenable to this form of treatment. It must not be supposed, however, that other methods are not used in conjunction with the ray, as its action is often aided and hastened by local and general measures. The different therapeutical aids employed will be spoken of in connection with the different classes of diseases with their comparative values with and without the ray. The results to be desired from any method of treatment are permanency and rapidity of cure, minimum deformity, and a freedom from pain, which effects are all embodied in the Roentgen ray treatment. While the changes in the tissues are slow, following ray treatment, the results so far outpass surgery, caustics, vaccines, local and general treatment, that it now occupies a place which can be filled by no other agent.

Most marked success has been attained in the use of the ray in the treatment of superficial malignant growths of the skin. While the treatment was given at first to all varieties of malignant growths, the field is now narrowed down to cutaneous epitheliomata, with an occasional attempt to cure deep seated carcinomata and epitheliomata of the mucous membrane. No other agent can do here what the ray can do, as surgery is painful, leaves a scar and does not prevent recurrence, caustics are painful and leave a slowly granulating ulcer, while freezing lowers the vitality of the part treated, very slow healing being the result. As these cases are, for the most part, elderly patients, and the growths being usually on the face, around the eyes, etc., all the above factors must be taken into consideration, giving a clear field to the ray, which will permanently heal with less deformity, scarring and pain than the above mentioned methods.

However, in epitheliomata and rodent ulcers having thickened, hardened edges, a more rapid cure is effected by the use of the curette to scrape out the hardened material, which would be only slowly removed by the ray. Following this with a mild, arsenical paste for a few hours, to seek out and destroy pockets and nests of pathological cells, and then using the ray to produce rapid epithelial proliferation, is the method which has given uniformly successful and permanent results. This plan can be used for any superficial growth, and has the advantage of adaptability to location where other methods could not be used (e. g. around the eye).

Before the advent of the X-ray, sufferers from acne had to endure as best they might while nature and some medicinal agents brought about a cure, during a period of one to several years, even then leaving a scarred and pitted skin or, sometimes, not curing at all. Since that time, however, acne patients can be promised a cure, sometimes slow, perhaps, but still a cure, in far less time than any other agent could produce it and also leaving a much better result. Mild cases are treated at first with vaccines, massage, lotions, etc., but, if they prove stubborn, they are given ray treatment with the more severe cases. The same general plan of treatment is followed out here, beginning with short daily exposures, gradually increasing the length of treatment and diminishing the frequency, but we always expect an exacerbation of the disease before the acute stage begins to subside. The patient is always warned of this as otherwise he would become discouraged and stop treatment at once. The first beneficial effects noticed are a diminution in the number of new lesions, the lesions are more superficial and shorter lived while the comedones can be seen to

be slowly pushed out on the surface by the contraction of the ducts behind them. There is also produced a sterilization of the pyogenic micro-organisms in the acne lesions, which has been demonstrated by inability to obtain cultures from the pus after a moderate amount of ray treatment. The skin itself is left with a vastly improved blood supply, partial atrophy of the ducts and pores and a much smoother and firmer texture. Other measures, such as lotions, massage, tonics, etc., are also employed if the case demands it, but all types of acne will respond to the light, the indurated pustular variety responding to this treatment as to nothing else. Since the ray causes changes in the skin and glands, there is slight opportunity for recurrence as the causative agent is removed. The acne rosacea of people beyond middle life is cleared completely, obliterating the dilated vessels to a certain degree as well as completely removing the pustulae, leaving a smooth, normal appearing skin, and diminishing the size of the organs affected, particularly the nose.

Tuberculous glands with or without discharging fistulae, show marked improvement in a short time and, if the treatment is continued, the fistulae close up, the glands become absorbed entirely except for a small amount of fibrous tissue. The dread of the knife and subsequent filling up of the glands, especially in the cervical region, is now done away with and a patient can be assured of a complete cure with a minimum chance of a return of the disease if the process has not proceeded to a complete breaking down of the gland. Glandular enlargement due to other causes will also respond to the ray, although when a disease condition is back of the localized trouble, e. g. Hodgkin's disease, it is extremely hard to cause the glands to return to normal

and it is not possible to prevent a return by the light alone.

Time will not permit us to go into details with all the diseases in which the Roentgen ray is an indispensable agent, but those cases are legion where only the ray can give the necessary stimulation and deep germicidal action. For example, in sycosis, true barber's itch, the ray is invaluable, as it helps stop pus formation and, at the same time, epilates the hairs and cures one of the most chronic of skin diseases. Varicose ulcers are stimulated to heal in a comparatively short time, while old localized patches of eczema and psoriasis will vanish quickly. Keloids that have been removed several times will respond to the ray and will again become level with the skin.

We are willing to admit that the ray has not done these wonderful things in all cases in which it has been tried. Some received it as a last resort while on others it was used experimentally. In exophthalmic goitre it has given indifferent results as well as in lupus erythematosus, rectal and bone fistulae, leukoplakia, carcinomata and epitheliomata of mucous membrane. Hypertrichosis has been successfully treated, but the epilation has to be done at least twice and the risk of producing a burn or permanent atrophy is too great, so these cases are not now treated by this means. It has proven of service in blastomycosis as well as in intractable symptomatic pruritus vulvae and ani.

This list could be enlarged upon and each disease dwelt upon at greater length, but, after hearing the foregoing, do not cast the ray aside as a useless therapeutic agent, as in the hands of men who have had long experience with it, wonderful results can be produced.

In conclusion, let us state that the Roentgen ray stands today as one of the most

powerful agents we possess without which the percentage of cured cases, dermatologically considered, would be far less than it is at present.

Also that there is a certain percentage

of dermatological affections, chronic in nature, incurable by any other therapeutic means except by the proper administration of the ray.

604 Washington Arcade.

## ROENTGENOLOGIC EXAMINATION OF THE PREGNANT UTERUS\*

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The following notes are intended simply as a preliminary report, and are presented largely to elicit the discussion as to the work which has been done by other members of our society.

The obstetrical Roentgen Atlas published by Lepold and Leisewitz in 1909, brought together in a very beautiful way, the applications of the ray to the field of obstetrics. Schoenberg, in his well-known treatise, has given the results of several of his investigations upon the feasibility of showing the living fetus.

The introduction of the new type of intensifying screen would seem to afford us new possibilities in the demonstration of the fetus in utero. Formerly, the exposures were of such length that the average operator hesitated to expose developing tissue to the long and intense radiation necessary for obtaining diagnostic plates. With the shortened exposure by the use of a screen, it would seem that this former fear can now be dispelled. The cases which the writer investigated went on to a normal delivery, with no apparent injury to the child. The cases which the writer investigated were undertaken simply with the idea of trying to find if the fetus could be shown in short exposures by the screen. The patient lay upon her side,

with the screen in place underneath and the large cone of the diaphragm was brought against the opposite side. The difficulty in making lantern slides of such plates as were obtained precludes the demonstration of these plates by the lantern. The transparencies, however, which were made, and which we will now pass around, show that the head can be shown with the upper and lower jaw, and the wall of the orbit as well as the fontanelles, the thoracic cage and the long bones. This enables us to orient, in a rough way, the condition of the fetus, telling whether the presentation will be occipital or breach. The differential diagnosis between a single or twin pregnancy can also be made. It has not been the good fortune of the writer to have a case for the diagnosis of tubal pregnancy, but there have been a number of cases upon record.†

The conclusions which the writer would present from his small number of cases would be; first, that the short exposures made possible by this screen can be made in pregnancy without hastening the termination of pregnancy and without apparent injury to the living fetus; second, the Roentgen ray can be used in the later

\*Read at the forty-sixth annual meeting of the Michigan State Medical Society, Detroit, September 27, 28, 1911.

†Since the above article was written the author has been able, in a case of doubtful diagnosis of pregnancy, to show the presence of a fully formed fetus when the clinical diagnosis was fibroid of the uterus.



months of pregnancy as an aid in the diagnosis of the different positions; third, the differential diagnosis between a single and multiple pregnancy can be made with considerable assurance; fourth, for the obtaining of soft tissue differentiation,

the use of as low a tube as is consistent with penetration must be employed; fifth for the safe determination of the quality of the tube, the qualitometer is of the greatest assistance.

32 Adams Ave. W.

#### DISCUSSION

J. N. BELL, Detroit: This paper is of very great interest to me. I consulted with Dr. Hickey a year ago, relative to the possibility of outlining the fetus in a pregnant woman, but, at that time, Dr. Hickey was a little bit afraid that some damage might be done by taking a picture, but now, since he has the advantage of this modified screen, it seems as though something might be accomplished; very little, however, I think, of any practical value. There is one condition in which I think it might be of great service, and that is a condition of suspected contracted pelvis, where we are, even when using pressure, under an anesthetic, not able to satisfy ourselves entirely that we can engage the head. If, in one of these radiograms, we could demonstrate, after a woman has been in labor for some time, that the head is still above the pelvic brim, that would be another proof that the pelvis was contracted. I think, in those cases, it might be of some material service.

CHAIRMAN SMITH: I would like to ask Dr. Hickey, in closing, just what advantage the X-ray would give over other examinations to be made in the ordinary way. Of course, the

employment of the X-ray would necessitate considerable trouble, and if there is any advantage in it I would like to know just what it is.

P. M. HICKEY, closing: I would not like to be misunderstood in presenting this subject. I presented this because I have been asked at different times by gentlemen, as Dr. Bell, if this could be done. They frequently want people to do it. We are able to do this. I do not advocate for one moment the fact that this method should supercede any other method, but I think it is an interesting fact that we can place on record that this can be done, that we can show the fetus if we wish. What I think the practical value of this is going to be is that in some of those doubtful cases of differential diagnosis between a fibroid and a pregnant uterus, and doubtful extra-uterine pregnancy, it is going to be of value. If we can show the developing bones in the fetus in an ordinary pregnant uterus, I think we will have one point which we may be able to employ in differential diagnosis between fibroid of the uterus and the pregnant uterus.

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#### CONTRACT PRACTICE IN FOREIGN COUNTRIES

What may be our personal opinion in regard to the merits of contract medical practice at the present time matters but little says, W. B. Chamberlin, Cleveland. (*Interstate Medical Journal*, December). It is an institution already firmly organized and flourishing in our midst, and it has come to stay. It is very necessary that our profession pay heed to these facts. The contract or Kassa practice in Austria, a sort of industrial insurance supervised by the State, has grown from 1,540,000 members in 1890 to almost three million members in 1905, or fifty per cent of the inhabitants of the larger towns. As a result, over thirty per cent of the Austrian physicians have a total income of less than \$240 per annum.

The average pay for some of the contract doctors amounts to about six cents a visit. In Germany the conditions are only a little better. The fee for an office call is fifteen cents, for a normal childbirth, \$1.20. In England at present an attempt is being made to introduce a similar system of industrial insurance, and the profession there is fully aroused. They demand adequate remuneration and representation on the insurance boards. The profession realizes its danger and is thoroughly united. The same dangers will soon confront us, says Chamberlin, and we must be able to present a united body to browbeating industrial organizations and insurance companies, or suffer the consequences.

## THE RELATION OF SURGERY TO MEDICINE\*

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The object of this paper is to call your attention to the interdependence of surgery and medicine, with a plea for more recognition of the attending physician in the after-care of his operated patients.

In all fields of medical practice, the last 25 years shows tremendous progress; in preventive medicine, in diagnosis, in treatment. Never before have we had so many resources at our command for the relief of suffering and the cure of disease. The great essential is *diagnosis*, followed by the intelligent application of the indicated remedy.

The rapid development of medical specialties has blinded the profession to the fact that the human body cannot be readily subdivided into its individual parts, medically, but must be treated as a composite whole, with special attention to any diseased part. There is no organ or tissue of the body independent of some other and but a limited number of disease manifestations are entirely local. Granting the truth of the foregoing statement, it axiomatically follows that the needs of the public can be best served by well trained general practitioners, broad minded enough to grasp the symptom complex and call to their aid the skilled assistance of the expert specialist in any needed line.

At present, there is too little in common between the general practitioner and the specialist. Probably the majority of

the work of the specialist comes to him direct, without reference by the family physician, who, recognizing the condition without acknowledging the cause, often hesitates to add to the prestige of the specialist by calling him in consultation when he really needs his assistance.

The real reason for the present popularity of the specialist is the good work which he does, and the real reason for the decadence of the family physician is his poor work, through his lack of attention to detail in diagnosis and his failure to recognize and properly treat the many minor local conditions upon which specialism thrives. For example, the average physician is content to write a prescription for "gleet" or "piles," without examination, just for a dollar, while the specialist makes an elaborate examination with impressive technique, *knows* what is the matter, cures the condition and collects accordingly. Yet, with some training along special lines, a few inexpensive instruments of precision, and an educated sense of touch, any general practitioner should be able to diagnose and successfully treat these, and many similar local ailments now so largely in the hands of specialists. The ordinary minor lesions of the eye, ear, nose and throat, the ordinary non-surgical diseases of the genito-urinary tract in male or female, and diseases of the rectum, should be recognized and treated by modern methods by every family physician; then *your* offices will again be filled with the patients who now travel from office to

\*Read at the forty-sixth annual meeting of the Michigan State Medical Society, Detroit, September 27, 28, 1911.

office for treatment of their various ailments.

Every specialist practices more general medicine than specialty. Try as he may, he can isolate his special organ from its environment but occasionally. He treats local conditions locally, and, local conditions of systemic origin systemically. The general practitioner, from his broader viewpoint, is better able to correlate diverse symptoms than any number of star specialists, and better able to determine what, if any, special treatment is needed. He learns his patient's constitutional idiosyncrasies and his degree of resistance to disease, hence, can best aid the "*vis medicatrix naturae*," our most efficient aid toward recovery of strength and function. Excepting degenerative and malignant disease, severe infections and fatal traumatism, all disease conditions tend toward recovery. We but assist nature, we do not cure. This is never more true than in surgical cases. We set the fracture by restoring continuity, perhaps badly, but the rebuilding of tissue and regaining of function are Nature's, and very slight is the aid we can render in this process. In operative surgery this is also true, and if the patient lives through the anesthetic and escapes infection and hemorrhage from faulty surgical technique, we are dealing with a convalescent patient. Nature conducts the repair, fights off invading bacteria, and seals up the wounded vessels and tissues, while we only aid her by not interfering.

Why, then, should the operator feel that because he held the knife and needle, he must attend the patient during a convalescence, which, if he has done his work properly, tends toward an uninterrupted recovery? Can he do more for the interests of the patient by usurping the place of the physician who called him as consultant, and, if so, what? Take, for example, an uncomplicated abdominal

section. Pathological tissues have been removed, bleeding vessels ligated, the wound closed and the patient placed in bed. If the operator has worked quickly and carefully, there is little shock and no hemorrhage or infection. What more is there to be done? Simply to watch the case for *possible* complications, in the event of which, the surgeon is usually as powerless as the physician. Without complications the patient is a convalescent, needing but a regulation of diet and elimination and advice as to when to sit up and go home. Wherein, then, does the surgeon fail of his duty, by imparting to the attending physician any special after care whims he may have and watching with the physician, in the role of consultant, until danger of complications is over?

If the operator be a good surgeon, complications develop but rarely in uncomplicated cases. Angus McLean has recently reported 2036 operated cases with a surgical mortality of 1.2% (peritonitis 5, ileus 6, thrombosis and embolism 6, tetanus 1, hyperthyroidism 2, acute pancreatitis 1.) A glance at the above causes of death shows that none of these occasional complications could have been averted by the *most* watchful after-care. The point under discussion is, of course, whether the personal and direct attendance of the operator prevents fatalities which would occur with the family physician in attendance and the operator as consultant. We submit, as our premise, that any well trained practitioner is competent to conduct the after-care of any operated case. It is possible to do harm by careless dressing, in delicate eye operations, in abdominal and pelvic operations with drainage, and in prostatectomies. In such cases, the physician will recognize the trained hand of the surgeon and want him to do the special dressings, in his

capacity of consultant. In all other cases, the attendance of the surgeon after operation is unnecessary except in an advisory capacity. He should share the responsibility without usurping, by word, act, or manner, all of it. He should give his suggestions to the physician or to the nurse, for the physician. It rarely, if ever, occurs that the advice of his consultant is not followed by a physician, both in letter and spirit. This is fundamental in the practice of medicine and as true in surgery as in any other field of practice. Per contra, the present day metamorphosis from consultant surgeon to attending physician is unique in medicine. In no other field does the consultant feel his responsibility keenly enough to bite the hand that feeds him.

Does the Roentgenologist treat your fracture case, or the consultant who makes a difficult obstetrical delivery for you insist upon conducting the after-care? Does the expert in internal medicine who makes an autogenous vaccine for your pneumonia patient take the case? Does the pediatrician take your case of meningitis because he makes a spinal puncture?

The true relation of surgery to medicine is that of a mechanical aid to general treatment. It occupies but a part of the field and a part inseparable from the rest of the field. Its relation to general practice is identical with all the other specialties, i. e., each is a branch of one great whole. In relation to the general practitioner, every specialist is a consultant for all referred work. Every well-known specialist has many patients coming to him direct, drawn by his famed skill. He sometimes treats these cases as his own, without obligation to any practitioner, or may refer them back to the family physician for general treatment. On all referred work the specialist confers with the physician and is largely guided by

his wishes in his further connection with the case.

The surgeon has four avenues by which business comes to him:

1. Cases coming direct.
2. Out of town cases, referred for operation in the city hospital.
3. Operations out of town.
4. Referred cases in town.

With the first two classes the surgeon, in accordance with the present custom, has no professional obligation. He may or may not call in the family physician in city cases coming direct, but he must care for patients coming from a distance, until they are able to go home. In class 3, he has no option; he consults or operates, leaves the after-care to the local physician and does not see the case again unless complications ensue.

In class 4, he should continue as a consultant through the case. He was called in for that purpose and his expert advice is welcomed by the attending physician. It is neither necessary or desirable that he take entire charge of the after-care, to the exclusion of the attending physician. In point of fact, much after-care in hospital practice is left to assistants or internes, which should be left to the family physician. Both physician and patient would be benefited thereby, for the physician brings personal interest and, usually, wide experience, in contrast with the routine service of assistant or interne. Exclusion of the physician from after-care responsibility makes his visits purely social. Few patients want to pay for social calls, and few physicians are willing to make them.

As a result of the exclusion of the attending physician from a share in the responsibilities and the emoluments of surgery, every physician is now doing all the surgery he dares, and many of those too timid are asking a division of the fee



as a commission for referring cases. While operative surgery is purely a mechanical art, it is an art. Any man with good anatomical knowledge can operate, but to operate safely and well requires manual dexterity which all do not possess. It would be better for the public and the profession if most major surgery were done by a limited number of men; men specially trained in operative technique by years of hospital experience. But, until surgeons recognize that their field is but a part of the healing art, inseparable from the general practice of medicine, and work with the profession rather than by themselves, this condition is unattainable.

The fee splitting evil has been decried by medical societies all over the country without apparent result. The practice demeans both the surgeon who gives and the physician who accepts an unearned fee. Its existence is more indicative of inadequate incomes for general practitioners than of low morale for the surgeon. The only real cure for this evil is one which removes the cause. Allow the physician the after-care of his operated patients, with the operator as consultant. He will gladly accept an earned rather than an unearned fee.

Physicians sending patients from the country to the city for operation should charge for diagnostic skill, and for responsibility taken, and collect from the patient.

Physicians coming with patients are entitled to charge for the value of their time and their share in the responsibility. In all circumstances where it is possible for the attending physician to conduct the after-care, the after-care rightly belongs to him, with the aid and advice of the surgeon whom he selects to perform the mechanical part of the treatment. His responsibility which ends only with the complete recovery of the patient is far less in surgical than in grave medical cases. With the possible exception of a few drainage cases requiring special technique in dressing, there is no surgical case where any physician competent to practice general medicine is incompetent to conduct the after-care.

Surgeons are only physicians with special skill in mechanical therapeutics. A just recognition by them of this fact and a willingness to cooperate with the profession in the treatment of surgical cases will do away with the present indiscriminate operating by nearly every physician.

The writer does not expect this paper to revolutionize existing surgical customs but is hopeful that by calling attention to present conditions, sufficient interest may be aroused to gradually bring about a closer, more reciprocal relation between surgeon and general practitioner.

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#### ALCOHOL AND LIFE INSURANCE

T. F. McMahon, Toronto, Ont., states that a critical examination of the statistics of every life insurance company which separately classes its risks indicates that in every year and at all ages mortality is much lower among abstainers than among non-abstainers. Most British companies guarantee a lower premium to abstainers. To prove his statement the author cites the statistical tables of several companies. Even

moderate drinkers are not as good risks as abstainers. One never knows when the former become hard drinkers. Risks should be classified as total abstainers, strictly moderate drinkers, those claiming to be such, and immoderate drinkers. The only safe way to deal with moderate drinkers is to reject them.—Medical Record, December 2, 1911.

## THE NEED OF A BETTER DEVELOPED OBSTETRICAL CONSCIENCE\*

CHARLES E. BOYS, M. D.  
Kalamazoo, Mich.

By the term "Obstetrical Conscience," we wish to mean that development of mind which has to do with the generalship and exactness of technique in obstetrics. It is that training which causes us to automatically regard the principles of obstetric practice as we know they should be and in the same degree as other work of a similar nature. The writer desires to state the belief that the general conception of the importance of obstetrics is much below what it should be, as evidenced by actual observations which are made among the profession. It is not the purpose here to consider the practitioner who is untidy in all of his work, but, rather, the one who, for example, does good, intelligent, clean surgery and yet who will commit the grossest of errors when doing his obstetrical work.

Permit me to illustrate this point by citing a specific case which came under my observation, in which a certain man graduated from a first grade medical school, was later interne, and then clinical assistant at the same institution, thus having acquired a proper conception of high grade work. When he entered private practice, he did good surgical work, but, as an example of his obstetrics, the following case which was typical of his work, is given:

After twelve hours of hard labor in a primiparae of 26, and with slight advance-

ment, it was decided to apply forceps. Little or no preliminary study had been given the case. The patient was put across a low bed in her kitchen clothes. The preparation of the patient consisted in splashing some bichloride solution over the unshaven and unscrubbed pubes and perineum, employing for this purpose some fragments of old sheets, unboiled, and, for the solution, an ordinary sink basin which had not been scrubbed or boiled. Preparation of the instruments consisted of boiling the blades of a rusty pair of forceps in a dishpan which, as is usually the case, was too small to allow the handles to be submerged in water and so were only steamed.

The preparation of the doctor consisted of the removal of his coat, one turn upwards of his shirt sleeves and about thirty seconds of washing in the basin just mentioned.

The case proved to be one of contracted pelvis and a most difficult forceps delivery. Extensive lacerations and a long illness followed. Had this case been brought into an operating room, even for so minor a procedure as a curetage or perineorrhaphy, in this unshaven and unscrubbed condition, or had he been asked to do even an ordinary operation without sterile gown, many hand solutions, well boiled instruments, and plenty of assistants, this same doctor would have complained bitterly of the hospital management. The former phase exemplified his obstet-

\*Read at the forty-sixth annual meeting of the Michigan State Medical Society, Detroit, September 27, 28, 1911.

rical, the latter his surgical conscience.

We often find a well developed surgical conscience, but much too infrequently, an obstetrical one. Undoubtedly, many factors enter into this, but, in the writer's mind, the chief cause is the exceedingly low degree of importance as established in the minds of the physicians. How can a patient consider a confinement of much moment when he measures its importance by a bill of seven to ten dollars when the same family has an appendix removed, a far simpler procedure than a forceps operation, and they get a bill of one hundred dollars, which they willingly pay? The very low rate of fees which the physicians have established in obstetrics has made good work in this line almost impossible, as the cost to the physician in both time and materials are so great.

A properly developed obstetrical conscience will consider every phase of the pregnant woman, from the early months of gestation to several weeks after delivery. This consideration is many-sided and includes the care of all complications which may arise, from varicose veins of the legs to albuminuric retinitis. There are two phases, however, which the writer wishes to emphasize as especially important, and these are the prevention of mechanical injury and of sepsis.

A highly developed obstetrical conscience will demand that indications and conditions are all present before an operative procedure is undertaken, and let these decide the time for interference rather than the urgency of other work. I believe that this is one of the hardest parts of obstetrics. We all acknowledge that expectancy is the greatest need in obstetrics, and yet, we so often are reluctant about using it as extensively as we should.

It is, indeed, hard to sit by an obstetrical case and wait while a fracture or an operative case goes to another practi-

tioner, and yet, if we are absolutely true to our patient, we should largely or entirely refuse other work until it is completed. The unexpected termination of some cases, and, still more important, the sudden development of eclamptic convulsions in others, are arguments enough on this point. One case comes to mind where, in a perfectly healthy primipara who had had a perfect course during gestation and whose urine examination was negative, convulsions developed during a pain when labor was nearly completed. Absence from the case on another call, in this instance would have, indeed, been embarrassing.

Undoubtedly, many cases would deliver without lacerations if only given sufficient time, where they receive serious injuries from too hasty delivery. An instance comes to mind where a hasty forceps delivery was made in order to get to a fracture case more promptly. A deep laceration into the peritoneal cavity resulted and then followed sepsis and death in four days, in a primipara of perfect health and uncomplicated period of gestation. This death must be charged up to a thwarted obstetrical conscience because it was not sufficiently developed to offset the temptation to act contrary to best knowledge and judgment. We all acknowledge the correctness of these statements and yet our practice fails to live up to them, as we would in surgery.

It is, however, in the prevention of sepsis that the development of the obstetrical conscience is brought most into evidence, and is of most importance. The writer wishes to say again that an obstetric operation is as important as a surgical operation and deserves the same care. A thorough grounding in surgical principles is, therefore, of first importance and then, to these, we should add the refinements and special procedures pe-

culiar to the work. No doubt but that we could be as careless in removing an appendix as we are in obstetrics and still still get good results if, in the former case, we had as good natural drainage established as in the latter. In obstetrics, we are too apt to trust to nature's excellent drainage and immunity for the protection which a careful technique should provide.

Our obstetrical conscience is not developed as it should be until we consider obstetrical procedures on the same plane as major surgery, and demand the same precision in technique. We are very apt to find ourselves going to an obstetrical consultation with a pair of forceps, a few antiseptic tablets, a snap and scissors discarded from our surgical set, to attend and prevent sepsis in a perfectly clean woman. Contrast with this the very elaborate assortment of sterile goods and instruments up to a suit-case full, which we carry when we go over to the next town to remove an appendix, which may have already become gangrenous and abscessed. In the former case, the woman is healthy and has a right to demand that she be spared infection and injury, and, if she dies from either of these, we should usually be blamed, while in the latter case, the patient has already gone into a hopeless condition not from our hands, and cannot justly make so great demands.

We should therefore, try to simulate the hospital technique in the home. In the hospital, this is usually on the same grade as surgery, but in the home, the most unwarranted compromises are often met, and this because we usually go into the home too sparsely equipped. If we carry a suit-case full to a surgical operation, we should also carry a suit-case full for confinements. It is surprising in how small a space we can place all the real essentials for an excellent aseptic technique.

Take, for example, an ordinary nineteen

inch obstetrical bag. Antiseptics, soaps, sutures, tapes, etc., occupy one side pocket. A copper sterilizer in the bottom holds the larger instruments not used, except for operative delivery; the loops in one lid hold snaps, scissors, tenaculæ, needle holder, needles and other instruments used as routine in all cases, while in the second lid is the razor, scales, catheters, rubber gloves, etc. Above the copper sterilizer is still enough room to hold a waterproof apron or trousers, one-third pound sterile cotton in copper can, a pair of wrapped sterile basins and the sterile pack. This pack contains a surgeon's gown, a pair of leggings, for the patient; six towels and cord dressing. With even this supply, one can obtain and preserve a sterile field until labor is ended in the average case, even where operative delivery is demanded.

A few points which I have found as greatly favoring asepsis, I wish to emphasize.

1. Avoid getting pus on the hands at any time. This is possible by letting forceps be your fingers while dressing pus cases, or by wearing rubber gloves which are easily carried in the pocket at all times.

2. Always prepare patient the same as for perineal operation. Earlier, I always asked permission to shave, but now I find it better to go ahead without permission and, while doing it, explain that hair is removed because it cannot be sterilized, that it is removed in all good hospitals and that you propose to give her the same good care at home. If reasoning fails, I demand that they must assume all responsibility if blood poison develops and they usually refuse to do this.

3. The first internal examination is not made until all preparations have been completed and gloves put on, the diagnosis of pregnancy having been previously established. Gloves are invariably worn.

4. Delivery across the bed and in the



dorsal position with hips projecting over the edge. The doctor sits in a chair, facing the patient who rests her feet on his knees. With sterile gown on the doctor, sterile leggings on the patient, a towel above and one below, we have a protected sterile field which can be kept sterile through hours of waiting. Solution and feces fall at once into a tub under the bed instead of into the bed, thus preventing infection from the rectum. The writer believes that this more than overcomes the argument that lacerations are more likely in the dorsal position.

5. A stand covered with a sterile towel for the sterile goods and instruments is a great convenience and aids asepsis.

6. In doing operative work, never do it on the bed unless absolutely necessary. On several occasions, the writer has been called to complete a delivery where failure had evidently been due to neglect of this precaution. A kitchen or other table is almost always present and should be used, as a good position can be had for both patient and doctor.

7. The writer never uses a Kelly pad and rarely ever gets a soiled bed. These pads are both cumbersome and infective and do not protect either the patient or the bed sufficiently. Clean newspapers are more nearly sterile and are not in the way. Often pure white paper in large

sheets can be had near paper mills, or paraffin paper can be had beforehand.

8. An assistant, familiar with your technique and present at every confinement, is an essential to the best asepsis. It is best if this be a trained nurse, but this is prohibitive to most physicians. To supply this need and at a cost which is within the reach of an average practitioner, the writer has undertaken to train a young woman into his methods, with the understanding that she is to remain at least one year in his services. By limiting the field of her study, she has acquired in two or three months, a very satisfactory degree of proficiency; in fact, to the extent that she can go in advance to a case, prepare the room, the patient and the equipment and can even diagnose the presentation and position from external examination and the fetal heart tones, and estimate very well when it is desirable for the doctor to come. She can make urinalysis and post partem calls very satisfactorily and thus the patient can get more of them than she might otherwise. When not on obstetrical duty, she does office work, keeps the books and tabulates the literature. This method of employing help is within the reach of most physicians and insures asepsis which cannot be had if the accoucher depends upon himself, or the patient's neighbor, to be his assistant.

#### DISCUSSION

W. P. MANTON, Detroit: I want to say that I endorse every word, or nearly every word, that has been enunciated in this paper. It is one of the best presentations of the subject I have ever heard. For many years, I have insisted on absolute cleanliness, but we know that absolute cleanliness in the ordinary house is not to be obtained; therefore the suggestions made by the doctor are extremely pertinent. I believe what he said in regard to the obstetric fee. It is quite possible that the man who does an obstetric case for \$5 or \$10 cannot afford to use enough soap and water, and bichloride to

keep his hands clean, but it hardly seems probable. Both are cheap. When one gets one hundred dollars for an appendectomy, it is a horse of another color. We, first of all, should teach the patient that what we do in the way of obstetrics is equally as important as what we do in the way of surgery. Obstetrics, nowadays, is very largely surgical.

There are one or two points I would like to mention. I have found what the doctor said in regard to the gentleman who had had such an extensive and beautiful experience to be very true. I remember several years ago, being

called in consultation with a man, a graduate of a German University, a university where they have wonderful and unlimited material in obstetrics, and yet this man, with all the training which he had, all the material which he had seen, and all the cases he had handled in that institution, had only a pair of old, long forceps, so old and dirty that they were corroded, done up in a newspaper, that was his entire equipment. Just think of that; and in a city, too, where some of us have been preaching antisepsis and asepsis for a long time—and in a case where money was no object. Indeed, after I had finished my work, the husband of the patient came to me and said: "Be sure you charge a good fee". It is often true that a man's education has not very much to do with his ideas of cleanliness, or of methods, or technique. These matters are individual, and the individual is dealing with the case.

The doctor spoke about house arrangements being the same as in hospital. I think the time is coming when every woman who can get to a lying-in hospital, or a good hospital where they take laying-in cases, will go to the institution. This habit is a prevalent custom in Germany and also to some extent in England, and I think it is coming in this country, too. I have many patients who have fine homes with every convenience, and are able to employ several nurses, etc., but who are willing to go to a hospital where they know things can be done better than they can in a private house.

In regard to the preliminary examination; every man who has a case come to him early enough in pregnancy should conscientiously look after that case during the remaining months of gestation. This I have urged repeatedly. The man, however, who is called in consultation, or reaches his own patient at the last moment, when the head is bulging, does not always have time to go into all of the details which the doctor has mentioned. He cannot study the case—especially the consultation case—as he would if he had had the patient under observation for a number of months; but, although he cannot carry out his asepsis as he would like to see it carried out if he had the proper training and experience, he will instinctively get at the facts in regard to the woman's performance and the general condition of things, in a way that no amount of study and observation would give to another, although the second man may have done an extensive obstetric practice.

I have always hesitated in regard to shaving patients where it could be avoided. Of course in operations on the perineum, it is desirable but, if any of you have seen a considerable number of women, you will have noticed that a good deal of unnecessary suffering often results from shaving. Growing hair about the pudendum may cause a tremendous amount of irritation in some cases, and, to avoid this, I have the hair clipped rather than shaved. The doctor has given me a new idea in regard to the clipper. I think that is an excellent instrument to have in one's bag.

There was one statement the doctor made in speaking of the disuse of the Kelly pad. He said he used newspapers, but he did not state that he sterilized them. I take it for granted that he does. Of course, we all know that there can be nothing more likely to be germ-laden than the ordinary newspaper, which passes from hand to hand before it goes to the press room, and after. In the country, I find that men can do all sorts of things that we cannot do in the city. Ordinarily, in city practice, we have a great many "bugs" to contend with that are not met in country practice. At the same time, we do get a very large number of gynecological, abdominal and pelvic cases, coming from the country to the city for repair, that result not from the infection that you get in the country, but from the lacerations, contusions and stretchings that are incident to child-birth. All in all, I want to congratulate the doctor for bringing this matter before the section. It is one of the most entertaining and logical papers I have heard for a long time on this subject.

H. WELLINGTON YATES, Detroit: I do not rise to say anything new or anything more emphatic than what has been said in the excellent paper presented, but only to accentuate that which has already been said, and one or two other things, perhaps. There is so much implied by the word extreme obstetric conscience, that we can hardly go into it at all. There are certain mechanical things that we can do, and the more we get in the habit of doing certain things, the more it grates not to do it, and, if we get in the habit of doing certain things, the use of gloves in particular, this will form one of those essential habits. I think this one of the best papers that can be written on this subject, for obvious reasons. In former times, before the day of antiseptic surgery, the mortality in surgery, or obstetrical surgery was about 8 to 1 in comparison to that done in private practice,

and since that time, the pendulum has slowly changed, so that we have about 8 to 1 in private practice from what happens in modern maternity hospitals. It means that in those old days, they were not acquainted with the knowledge of infections, and the mortalities that came from hospital deliveries. We are acquainted with them now, but while our mortality is cut down from what it was, an astounding mortality is still present and is a reflection upon us who do obstetrics as long as it stays where it is.

So far as the Kelly pad is concerned, I disagree with the doctor. I think it can be sterilized. I don't think the Kelly pad used in obstetrics should be used in general practice at all; it should be kept in some secret place as a special paraphernalia.

One other thing, I think is questionable—the delivery of patients in a cross-bed position; that is, they should not occupy the bed at all under ordinary conditions. A kitchen table can be gotten in any house, and there is no place that you can abuse a patient, or, rather, it is more difficult to abuse a patient on a table where you cannot get your feet and all other sorts of things up for leverage. Just in proportion as you take undue advantage of a patient, just in that proportion will you get not only mortality but you get morbidity. I think there is too much attention paid to mortality and figures of that kind. As a matter of fact, every once in a while, you see some fellow who has had a series of some four thousand cases without one infection. This nonsense means that he has not had one die. He, perhaps, may be honest in that but there can be only a few who can be honest in that. But the question of morbidity is another question, and, as a matter of fact, if those cases were taken care of properly, the field of gynecology would be wiped out. Dr. Smith,\* and a few others, would not have anything to do. As a matter of fact, the question of morbidity rather than mortality is the thing that interests us most. We may only lose one once in a while, but the morbidity, the great subinvolutions, the great tears and those things with virulence enough to continue the pathology for so long a time that we have all sorts and chains of conditions that must, at length, go to the operating table and the gynecologist.

W. C. STEVENS, Detroit: I want to congratulate the doctor upon his paper. I have attended many cases of obstetrics, and have picked

up a few practical points. I like the paper pad. I have used it many years. As Dr. Manton said, it is an infected sheet. When I was engaged in obstetrical practice, I was unfortunate enough to have a great many cases among what we might call the lower classes, where we could not have an elaborate technique, and this is the way I had my paper pads made: I had the papers ironed thoroughly on an ironing board with a hot iron, as hot as could be used without scorching. Then I had them piled and quilted through and through. It does not take many pages of an ordinary Sunday paper to turn water. Then I had the pads rolled and put in a chest in an unused room or attic, with plenty of formaldehyde. In that way the chest comes to you at the obstetric hour with your pad sterile, and the pads can be placed, one after another under a patient, as required. This will keep the patient sterile and in a cleanly condition. If you wish to have a pad that is very nice, have them cover both sides of it with ordinary cheesecloth, and I think you will find the pad free from germs. I was called in consultation, recently, to a patient I had attended three or four years ago, and I was much surprised to find that she had prepared for her physician a satchel full of these pads.

In regard to the kitchen table, with its cracks and crevices, and its fly-specks, and its grease spots, I would just like to know how long it is going to take to scrape it and have it in a decent condition, and then, of course, it is assumed that you have got a place where you can sterilize a sheet or two, especially without burning—I am speaking now of the great middle class who cannot afford to have their sheets burned up. The way I do is as follows: There are but very few houses in which you cannot find two or three leaves of an ordinary extension table. Have them scrubbed with bichloride and hot water. These you can slip between the springs and mattress and have a good operating table.

These are a few points that some of you who are working in small bed rooms, with surroundings which are not quite what you would wish, may find useful.

CHAS. E. BOYS, closing: There seems to be some discussion as to the sterile condition of the paper. If you will go to the paper mill, you will find that this paper is, first of all, immersed for 24 hours in a strong solution of chloride of lime, to take the color out of the rags and old paper from which the new paper is made. From there it goes into a large vat of chloride

\*Richard R. Smith, Grand Rapids, Chairman;

of lime and is left 24 hours more; it is then poured on a screen and rolled through 14 or 16 rollers of superheated steam, which sterilizes it. From there it rolls on the printing press, and the ink is vaseline and sterile and they do not fold the papers by hand any more, so the paper is not touched at all until it gets to your door. And suppose you do use an unsterile newspaper or a dirty kitchen table. That is of the smallest importance, because you don't put a

woman on the kitchen table, but it is always covered by something to protect her from pressure injury. You cover this up, and even if you use papers, or the Kelly pad, of course this would be covered with sterile towels, which are carried along.

I want to thank the discussers for their kindly consideration, and those present for their kindly attention.

### SURGICAL SUGGESTIONS

*American Journal of Surgery.*

Tuberculosis of the bones develops in the epiphyses or the joint synovia. An inflammatory lesion in the shaft of a long bone is never tuberculous.

The sooner a long bone is opened in acute osteomyelitis the less the destruction.

The X-ray is invaluable in the diagnosis of bone cortex and periosteal disease. In bone medulla infections it is of little service.

No chronic bone swelling should be subjected to operation without excluding syphilis.

Scrutinize carefully every "fistula" near the anus; a skin-lined sinus in the median line, in front of or behind the anus, is congenital and usually leads to a small dermoid.

A troublesome "erosion" of the cervix may disappear without any other treatment than the replacement by pessary of a coexistent retroflexion.

Uterine curettage has its chief indications in incomplete abortion, metrorrhagia as from submucous fibroids, inoperable carcinoma, etc. Its indiscriminate employment in chronic endometritis is to be condemned.

Chronic tenosynovitis at the wrist may be differentiated from other swellings (e. g., lipoma) by fullness and fluctuation in the palm when the prominent area is pressed upon.

The removal of a wedge of skin at the side of an ingrown nail, as in Cotting's operation, is rarely necessary and usually objectionable.

Granulations disappear quickly when the nail segment is withdrawn; if they are exuberant they may be snipped or burned off.

In the presence of a tumor in the right iliac region it is rarely safe to exclude appendicitis from the diagnostic possibilities.

Hemorrhage from an accidental wound in the vulva is usually better controlled by gauze packing than by attempts at ligation.

A chronic gonorrhea in women may be due to uncured disease of Skene's ducts. After these are slit open with a fine scalpel or with the galvanocautery knife, the disease will be cured.

In case of abdominal disease a vague mass in the epigastrium associated with exaggerated distinctness of aortic pulsation at that point suggests pancreatic disease or retroperitoneal lymphatic tumor.

At the conclusion of an operation in which iodine has been used to disinfect the skin field, remove the excess of the drug by wiping with alcohol or ether. This may save the patient much discomfort.

In carcinoma of the bowel local signs appear first and deterioration in health later; in intestinal sarcoma impairment of health is first noted and local signs appear later. In carcinoma obstructive symptoms are the rule, in sarcoma the exception. In carcinoma the growth of the tumor is relatively slow, in sarcoma it is rapid.



## The Journal of the Michigan State Medical Society

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JANUARY

## EDITORIAL

### DUES AND SUBSCRIPTIONS

THE dues to the Michigan State Medical Society are three dollars per year, and are payable to the secretary of the local county society, together with the county dues of one or two dollars, as the case may be.

The benefits of membership in the state society have been enumerated so many times that they scarcely need repeating: Eligibility to membership in the American Medical Association, the JOURNAL of the Michigan State Medical Society which alone, we believe, is worth the whole amount of the dues; also defense for civil malpractice, a service for which the commercial companies charge \$10.00 to \$15.00. This is a defense that is real and that is conducted by some one vitally interested—ourselves.

Dues for the year 1912 are now due and their early payment will secure a

continued defense with no break, a continued reception of the JOURNAL with no break, and will enable the state society to conduct its affairs with the minimum of trouble and expense.

At the Bay City meeting the House of Delegates passed a resolution instructing the secretary to, on May 1st, remove from the membership list, and from the mailing list of the JOURNAL all those members still in arrears for the current year's dues. There were many qualms and misgivings of the result of such a radical change in our method of handling of delinquent members; but the result was so good that the House of Delegates at Detroit instructed the secretary to continue the method and to publish in the May, 1912, JOURNAL a list of all those in arrears April 15th.

The membership of the society is now, Dec. 23, 2158, an increase of 179 over last year and 137 more than the society has ever had before. This is a grand showing in the matter of quantity (or numbers) and we are pleased that this increase has been made not at all at the expense of quality. Undesirable men have been kept out repeatedly during the year as they should be at all times. While numbers in an organization are always desirable, no organization can afford to take in, as members, persons of questionable ethics.

Please remit to your county secretary, whose name and address will be found on advertising page XII; and, while we are having this heart to heart talk, do not fail to notify the secretary of changes of address should any be made—and send us news items.

### ALPENA MEDICAL NEWS

THE Alpena County Medical Society was reorganized as an integral part of the Michigan State Medical Society on July 25, 1911. It has fifteen members, and an

active set of officers, as witness the above title. The society meets monthly, and has established a Bulletin to publish its programs, announcements, abstracts and discussions. The first number has been received, the December number, and it is a most creditable showing for a society so small, and so young. There are twelve pages and cover, composed of one page of program and call of meetings, three pages of notes and news items, four pages of president's address, and the balance in advertising. It is all bound with a rough blue tinted cover.

The plan of the Alpena County Medical Society as announced in the first number of the *News* is to mail to about two hundred professional people, selected from the physicians, lawyers, ministers, educators, dentists, nurses and druggists. This gives a much larger circulation than mailing to the physicians alone would, and makes the advertising space more attractive.

We have been told for the past several years that medical men are too aloof from the general public, that the laity does not know enough about our aims, ambitions, and problems to appreciate us. We are urged to have public meetings occasionally, to discuss certain things with the public—public health problems and the like. We are also urged to publish occasional articles on these subjects in the lay press. Alpena seems to have adopted an effective plan of placing their aims, ambitions, needs and problems before representative people in influential stations and let us hope the effort may meet with marked success.

We now have five county society Bulletins: The Wayne County Medical Society Weekly; The Bulletin of the Kent County Medical Society; the Bulletin of the Kalamazoo Academy of Medicine; the Bulletin of the Bay County Medical Society and Alpena Medical News. These are all published

just before the meetings of the societies. The Kent Bulletin, has, until the present been devoted to organization matters and news items, also publishing the program of the next meeting, but it is now announced that abstracts of papers, and discussions will occupy most of the space. The other bulletins mentioned are devoted mostly to abstracts and discussions.

### ETHICS

#### I. SEVEN YEARS' WORK

SEVEN years ago! How short the time and yet how great has been the change!

Seven years ago the medical man was dished out drugs, nostrums, proprietary preparations, upon the labels of which were all sorts of fraudulent claims of beneficial results in certain specified diseases. The contents of the preparations were not stated, or if they were, in rather indefinite manner. Every medical journal was brimming full of the advertisements of proprietaries, patent medicines and other frauds of a medical nature—probably not every journal but the vast majority.

Seven years ago the American Medical Association, acting upon requests from various sources, not the least of which was one from Michigan, established a Council on Pharmacy and Chemistry to act as a clearing house, upon whose reports the medical man could rely regarding the true composition and true worth of the preparations he was asked to prescribe.

The Council on Pharmacy and Chemistry has been at work for seven years.

The Journal of the American Medical Association editorially, has featured this work. It has urged, in season and out, the value of the work of the Council. It has urged that medical men support this Council by using only such proprietary preparations as receive the approval of the Council.

The rules\* adopted by the Council were stringent but not too strict. No manufacturing house need fear the work of the Council or disapprove of this work from the fact that the rules are too stringent. These rules do not cut off useful and desirable pharmaceuticals. They simply restrict those which are in one way or another deceptive; those which are so labeled or so advertised that they may become "Household Remedies," that is, those which are advertised directly or indirectly to the public, those with a statement on the label that certain diseases, etc., will be cured, that they are beneficial in certain conditions, or those given a name which is suggestive of the therapeutic indications, etc.

Any doctor, when invited to buy any proprietary, should be granted the privilege of knowing, not only the potent drugs which the preparation contains, but their quantities. He should be privileged to prescribe this preparation in a way to protect his own practice and his people. The preparation should not be put up in a way that, once prescribed, it becomes common property, leading to all the ills of self-prescribing.

Conditions have changed in seven years. Many of our medical journals are cleaner. A large number refuse to carry advertisements of preparations disapproved by the Council on Pharmacy and Chemistry, and many carry nothing which has not received the distinct approval of the Council.

Much has been accomplished; much more remains to be accomplished. Those upon whom the burdens of this propaganda have fallen have had their sleepless nights and days of doubt when the questions arose: Is this work appreciated? Is this a reform before its proper time? It has

been well stated "No great reform can succeed until the general public wants it."

It is pertinent to ask at this time: Does the medical profession wish this reform to continue? But while it is pertinent to ask this question let us not lose sight of the immense good that has already been accomplished, of the hundreds and thousands of doctors who are not using proprietaries not approved by the Council on Pharmacy and Chemistry. Let us not lose sight of the scores of proprietaries which have been driven into a certain class of medical journals. Last but not least let us not lose sight of the fact that many of our foremost lights in medicine are, both by subscriptions and by contributions of scientific papers, supporting some of the journals which are among the worst offenders in the way of their advertising pages; but, while not losing sight of this latter fact, let us remember it to condemn the practice.

Doubtless we are looking forward to an Utopian age when all men, medical and lay, will be ethical—to a time when a true scientific spirit rather than a commercial one will actuate our undertakings. While this Utopia is far away, seven years of endeavor have served to bring it within the field of distant vision. Who can tell what seven more years will do? Or seven times seven?

### IN MEMORIAM

Louis Fleckenstein, M. D., Detroit College of Medicine, 1889, formerly of Vernon, a member of the Shiawassee County and Michigan State Medical Societies, died at his home in Detroit, November 14, from cerebral hemorrhage, aged 55.

\*See New and Non-official Remedies.

## COUNTY SOCIETY NEWS

### ALPENA

The meeting of November 17 was by far the most profitable and instructive that the society has ever enjoyed. After a delightful dinner at the New Alpena House, Drs. McDaniels and Small acting as Hosts, the following program was presented:

"Cause of Sudden Death in Typhoid Fever," Dr. Otto Bertram; "Vaccines," Dr. W. A. Secrist; "Presentation of Four Cases of Compound Fracture," Dr. D. A. Cameron; "Presentation of Case," Dr. J. D. Dunlop.

C. M. WILLIAMS, *Secretary*.

### BAY

At the meeting of November 13, Dr. F. W. Brown, of Bay City, was elected to membership.

The president appointed Drs. Ruggles, Kelley and Gallagher as a committee on the contract for attending the poor of Bay County.

A lively discussion occurred relative to the general efficiency of nurses and hospitals in the city. Ways and means of making the efficiency more perfect were discussed, with the result that the president appointed a committee composed of Drs. J. W. Hauxhurst, C. H. Baker and John M. McLurg to examine applicants for admission to the schools, and act as an advisory board in the matter of hospital management.

The paper of the evening was read by Dr. G. W. Trumble on

#### "The Modern Treatment of Gonorrhea."

*Abstract:* For descriptive purposes, gonorrhea is divided into acute and chronic; acute being again divided into acute anterior and acute posterior.

In commencing attack of acute anterior, cleanliness and guarding against infection of eyes is very necessary. Coitus and excessive use of tobacco are interdicted. Light diet and abstinence from alcohol are necessary.

The abortive treatment has been generally abandoned as too severe and liable to failure.

In acute stage mild diuretics or Methylene blue and boric acid are useful. Balsams should not be given at this stage.

The physician himself should give local treat-

ment. Injections of  $\frac{1}{2}$  per cent Protargol or  $2\frac{1}{2}$  per cent Argyrol, not more than twice daily, retained ten minutes, give best results. For chordee, hot irrigations of potassium permanganate 1-5000 twice daily give relief.

The two glass test should be used every day and stains made from time to time to note progress.

After four or five weeks if gonococci are present in shreds or morning drop, injections of 1 per cent Protargol or 25 per cent Argyrol retained fifteen minutes, should be used once a day. In absence of germs, a mild astringent injection should be used. Patient is not cured until discharge ceases and urine is free from pus and shreds.

Treatment of acute posterior urethritis is rest in bed, saline cathartics, hot sitz baths and urinary antiseptics with antispasmodics as indicated. No local treatment until urgent symptoms have passed.

In chronic gonorrhoea very careful work is required to diagnose diseased portion of the urethra. If a morning drop is present, first stain specimen, then wash out anterior urethra with boric acid solution, collecting washing in first glass, allow patient to pass part of urine into second glass, then massage prostate and have remainder passed into third glass. First glass will contain shreds from anterior urethra if disease is there or elsewhere; if second glass contains shreds it indicates diseased posterior urethra; shreds in third glass indicate disease of prostate. A correct diagnosis can be made in this way in the absence of stricture.

If gonorrhoea is present when disease is in posterior urethra, instillations of 1 to 2 per cent Partargol, or silver nitrate, 2 to 10 grains to the ounce may be used. If disease extends over the greater portion of the urethra, irrigations with 1-10000 silver nitrate are more useful. Balsams may be used in chronic gonorrhoea, sandal wood oil 5 minims three times a day being most reliable.

The following members discussed the paper: Drs. A. F. Stone, McLurg, Tupper, Perkins, Goodwin, Baker and J. W. Gustin.

At the meeting of November 27 the attendance



was very good. The matter of changing the character of our meetings by instituting a system of reviews or articles in the leading medical journals was brought up by Dr. V. L. Tupper. After some discussion favorable to the idea, the matter was left in the hands of the program committee.

The president announced that the Society was invited to be his guests at a dinner to be held in the Wenonah Hotel, Monday evening, December 11th, this being the annual meeting.

The paper of the evening was then read by Dr. V. L. Tupper on

#### **"Exophthalmic Goiter."**

*Abstract:* An average of four thyroid cases daily are operated at the Mayo clinic. The disease is common, but successful treatment has been evolved only within the last few years. Early diagnosis is difficult, but very important. Proper treatment even late in the disease will arrest the disease, but will leave the patient permanently damaged.

The doctor discussed the anatomy of the thyroid and the history of the disease.

The secretion of the thyroid dilates the peripheral vessels, stimulates the growth of long bones, and the gray matter of the brain, thus neutralizing the effect of secretion from adrenals and pituitary body. Excess of secretion, or toxic elements in secretion from diseased thyroid cells probably causes exophthalmic goiter, this abnormal secretion acting as a poison to the heart, blood vessels, muscles and nervous system.

Hyperthyroidism develops in the parenchymatous form of diffuse goiter, in which there is proliferation of glandular cells, increase in number of follicles and connective tissue, but decrease in colloid. Because of diminution or destruction of cells in the colloid form, hyperthyroidism does not occur. It may occur in certain nodular forms in which the cells are embryonal in type.

Diffuse enlargement of one or more lobes is usually present, though marked cases following shock, fright, etc., occur with but little enlargement.

Tachycardia is the most important symptom. Moebius states that if explained in no other way, this symptom alone indicates presence of hyperthyroidism.

This symptom, with one of the other cardinal symptoms, makes diagnosis sure, even though symptoms are intermittently present. Over-

work, excitement, fright or shock may cause severe or fatal exacerbations.

Tremor is one of the most common symptoms, often being that for which the patient first consults a doctor.

Muscular weakness is always present in advanced cases, showing the effect of the poisons on the tissues. Landstrom ascribes the exophthalmos to a weakness of a new unstriped cylindrical muscle, having its origin in the orbital septum, and over-looked until now by anatomists. Exophthalmos is also due to vein engorgement. This weakness may also produce the well-known signs as well as gastro-intestinal disturbances, though the latter may be due to toxic effect on the gastric and intestinal glands.

The cranial nerves and sympathetics are also affected, hence the nervous phenomena. Flushing and sweating and irregular attacks of diarrhoea are due to disturbances of the sympathetic.

With nervous symptoms predominating, the diagnosis may be missed. Hysteria may complicate the disease and misguide us. All symptoms may be quite variable according as the gland activity varies. As a rule during an exacerbation the gland seems more engorged.

Signs which may aid in diagnosis are: Graefe's sign, lagging of upper lid when eyes are directed downward; Stellwag's sign, retraction of upper lid; Moebius' sign, an insufficiency of convergence; Bryson's sign, peroxysmal dyspnoea, other than that due to severe cardiac weakness, dilation of stomach or anaemia. Loss of hair and lesions of skin are often present.

The thyroid normally by its secretion increases the opsonic index, but in exophthalmic goiter the opposite is true.

In beginning cases, hygienic and medical treatment will cure half. While surgery produces brilliant results, cases should not be rushed to the surgeon too early.

Rest, fresh air, absence of excitement and proper diet are essential. Women should be warned against pregnancy.

Neutralization of the toxin is indicated and the serum from thyroidectomized goats is given in doses of 20-60 min. every 12 hours at first and later every few days.

A meat-free diet, reduction of ingestion of salt, and the use of hydrobromate of quinine are recommended. Phosphate of soda for elimination of toxin has been used.

If no improvement is shown, there should

be no delay in stopping the effect of the poison at once by surgery.

The paper was discussed by Drs. S. E. Gustin, Ballard, Baker, Randall, Hauxhurst, Mary Williams, Goodwin and Perkins.

The Bay County Medical Society, at its annual meeting, Dec. 11, elected the following officers:

*President*, J. William Gustin, Bay City

*Vice-Pres.*, Floyd H. Randall, Bay City.

*Sec.-Treas.*, H. N. Bradley, Bay City.

*Mem. Med.-Leg. Com.*, M. Gallagher, Bay City.

*Delegate*, R. C. Perkins, Bay City.

*Alternate*, E. A. Hoyt, Bay City.

H. N. BRADLEY, *Secretary*.

### GRAND TRAVERSE

The regular monthly meeting of the Grand Traverse-Leelanaw County Medical Society was held on the evening of Dec. 5 at the country home of Dr. Flemming Carrow. Eleven members were present, also the following guests: Dr. Edmunds of Honor, Michigan, and Dr. Bailey of Traverse City.

Minutes of the last meeting were read and approved. The President appointed the following committees: Program committee, Drs. J. M. Wilhelm, F. P. Lawton and M. L. Gregory. Membership committee, Drs. A. E. Chase, W. E. Moon and G. H. Holliday. Dr. Carrow was admitted to membership in the society.

The program for the evening consisted in discussing interesting cases.

Dr. G. M. Johnson invited the society to meet at his home for the January meeting. After the society adjourned, the members sat down to an elaborate luncheon which Dr. Carrow had prepared. R. E. WELLS, *Secretary*.

### ISABELLA-CLARE

The annual meeting of the Isabella County Medical Society was held at the office of Dr. Gardiner, November 15th.

Dr. A. T. Getchell gave a report of his visit to the meeting of the state medical society.

Dr. C. D. Pullen gave his experience in the use of vaccines. Both papers were fully discussed by all the members present.

Election of Officers for 1912 resulted as follows:

Dr. C. M. Baskerville, *President*; Dr. W. A. Sayers, *Vice-President*; Dr. S. E. Gardiner, *Secretary-Treasurer*; Drs. Getchell, Pullen and

Johnson, *Directors*; Dr. Michael F. Brondstetter and Dr. Louis J. Burch joined the Society.

S. E. GARDINER, *Secretary*.

### KALAMAZOO ACADEMY OF MEDICINE

October 24th, Dr. H. M. Backen of Minneapolis, spoke on

#### "Public Health as a Problem of the People"

especially dwelling upon the plan of that work, preventable diseases:

*Abstract*: A very large percentage of our deaths are either from preventable diseases or accidents. This is not a doctor's problem. If you were to look at it from a selfish viewpoint, it is; but it is the function of the physician to relieve pain and cure disease, and not to prevent it.

The question naturally arises: If preventable, why not prevented? In order to prevent disease, we need to know the nature of the infection and the carrying agent. If we know the carriers, we may be able to cure without knowing the others. We have known for years that quinine would cure malaria, but we did not know why. We may prevent without knowing the cause, as we do in smallpox.

In spite of the many research laboratories and workers in them, the prevention of disease is, as yet, in its infancy. In preventing disease it is important to get the first case. The care of this first case would prevent epidemics.

In typhoid fever we know both the prevention and the cure. It is caused by ignorance and neglect. The old idea of prevention was quarantine. Quarantine is a relic of barbarism. It only rarely prevents the spread of disease. It does not reach the carriers. A better method is the isolation of the patient and the carrier. Patients should not be quarantined because they are sick, but because they are dangerous, and they should be quarantined until they cease to be dangerous.

How are patients to be isolated? It is very difficult in the home. A better way is to provide hospitals. These should not be pest-houses, but good hospitals, and should accommodate the surrounding country districts as well. With good roads and automobiles, transportation is practicable for a radius of twenty miles. The cost of caring for a case of typhoid in a hospital would be, say, about one hundred dollars; while in the home secondary cases are liable to develop and may cost five or six hundred dollars, and with more danger of loss of life.

Diseases are not so much air-borne as formerly

believed. This is well demonstrated in the hospitals where "cubicals" are used to separate the different forms of contagion.

We need more trained workers who can discover the carriers. We should have trained inspectors in every state who could go round systematically and co-operate with the health officers and advise them in their work.

Most infections enter the body through the mouth or nose. We can guard these portals by using care with reference to what enters them. Milk is the greatest of infection carriers.

We need more thorough isolation of patients and placarding of homes. We need more thorough quarantine. The rigid methods of the government were to be credited with freeing Cuba and Porto Rico from the fevers. In Hawaii leprosy is fast disappearing. The trouble comes with the states. They do not handle things the way the Federal Government does. Money cannot be had for prevention of diseases in the States.

I consider a strong health department and visiting nurses as the most important in this work. Medical school inspection is needed. This would note defects, watch for preventable diseases, and watch the development of the child. The last is the most important. Under the present system the medical health officer does not draw sufficient salary, and he is liable to be dropped at any time. He must let his practice go, and when he leaves the public work he can not get it back again. You hire policemen to protect your lives and property, but you will not hire health officers and nurses to protect your lives, which are more valuable.

#### DISCUSSION

Dr. R. L. DIXON, Lansing: Ignorance and negligence have much to do with failure to enforce preventive measures. In one instance, where a family was sick with typhoid, the husband objected to the statement that the well was contaminated from a closet near by. I placed a pound of red dye in the vault, and a week later this man called up and said that his well water had turned red.

In another instance the owner of a dairy objected very boisterously to condemning his milk because he had an employe in the stables and milk-room with active tuberculosis.

We have not sufficient money to properly carry out health measures needed in the state. What we need is enforcement of the present laws. I would advocate a thorough inspection with reference to the industrial diseases. We are

going to do this in connection with the labor department, and we are going to try and carry the cure along with the inspection. We are also going to put in an expert in the study of eugenics.

I believe that good results will come immediately from physicians getting together and complying with the health laws of the State of Michigan.

Nov. 14th, Dr. Clara Davis of Lansing, read a paper

#### "Problems In Infant Feeding."

*Abstract:* Three main ideas have dominated infant feeding in this country:

1. High proteid cow's milk was responsible for our troubles, thus the elaborate percentage method of dilution.
2. Character or curd, which was modified by cereals, gruels, sodium citrate, etc.
3. Theory of bacterial etiology—gastrointestinal diseases of children; namely, Diarrhoea, ileocolitis and cholera infantum. This led to pasteurization or sterilization of milk.

Ileocolitis, or acute enteritis with inflammatory lesions, is a disease entity, undoubtedly bacterial. Finklestein and Meyer, however, claim carbohydrate metabolism responsible, and can produce or cure, at will, cholera infantum by altering the percentage and character of sugar in food.

The first three years of infant life are predisposed to spasm or spasmophilia. Cathodal electrical reaction of less than five milliamperes is very suggestive of spasmophilia. Chvostek's sign, reflex contraction of facial muscles occurring where the skin from the facial plexus is tapped, is useful between attacks. Children with spasmophilia may be freed from it by milk and salt free diet, but its return may be expected when milk alone is used. Phosphorus combines the calcium, and has a sound therapeutic basis.

Eczema can be made to disappear through salt free diet.

When we estimate the growth of an infant we should use the tape as well as the scales.

Eiweis milk, Finklestein's soup, salt poor diet, offer several and successful methods of modifying the salt contents of milk independently of proteid.

Dr. Jeanne C. Solis of Ann Arbor, also read a paper,

#### "Panoptosis."

*Abstract:* Panoptosis is a chronic disease. Chronic as well as acute diseases should receive our attention. Failure in treatment of chronic diseases is a reproach to the profession. Symp-



tom complex: Firstly, interference with static condition of digestive, abdominal and pelvic viscera; secondly, general bodily atony or relaxation; and, lastly, nervous reactions, local and general, accompanying the somatic disturbances. Further, pronounced incorrect attitudes of body, expressionless face, ptoses of stomach, abdominal viscera, diarrhea or constipation, muco-colitis, leucorrhea, profuse or absent menstruation, general fatigue—all these accompany low state of cerebral processes.

Several case histories were read which demonstrated the presence of insufficient muscular tonicity. Muscle tonicity depends upon integrity of muscle fibre and respective spinal cord segments. Failure of digestion and constipation induce auto-intoxication, which, in turn, produces nervous symptoms, thus later a vicious circle. Panoptosis, according to LeDow and Tisserand, results from demineralization of bodily tissues—hypothyroidism. Thyroid as well as calcium therapy relieves conditions. Evolutionary development of special and general muscular system enhances increasing disability.

Treatment, symptomatic: *Nux vomica* for motor activity of stomach along with bitter digestants and rest. Intestinal elimination may be estimated by indican test and maintained by calomel, cascara, fl. ext. glycyrrhiza and by intestinal antiseptics. Special dietary must be inaugurated. The therapeutic aim must be to press down the somatic processes into the subconscious realm from which they have escaped in these patients, to conscious realm. Electricity, induced current and secondary of coil in an interrupted manner, and sufficiently strong for contraction, can be utilized.

Electricity over liver increases blood pressure and hepatic function. This stimulates the relaxed muscles to more prompt and normal contraction, and likewise increases spinal cord nutrition.

C. E. BOYS, *Secretary.*

### KENT

The ninth annual meeting of the Kent County Medical Society was called to order on the evening of Dec. 13th, 1911, with the president, Dr. D. Emmett Welsh, presiding, and eighty members present.

The minutes of the preceding meeting were read and approved. Dr. R. H. Spencer, retiring councilor for the Fifth District, in a few words expressed his appreciation for the

support he had received from the society during his term of office and bespoke for his successor, Dr. DuBois, a like assistance in his performance of the duties of his office.

Dr. G. L. McBride, chairman of the Board of Directors, made the following report.

#### REPORT OF THE BOARD OF DIRECTORS

It is a matter for congratulation that the harmony and good will prevailing among the members of the society during the past year has made it unnecessary for the Board of Directors to decide any questions of discipline affecting the conduct of members.

No questions of an ethical nature nor any involving the rights or standing of members have been referred to the Board during the year. "Harmony and Progress" seems to have been the watch-word with the result that the purpose of the society to bring into one organization the reputable physicians of Kent county has been more fully realized than ever before.

The high standing of our invited guests and the excellent quality of papers read have been an inspiration to those who have been fortunate enough to hear them, and must inevitably have elevated the standard of medical education and ideals in this county.

The spirit of unity and harmony generated in these meetings and the friendly attitude of the members to one another has been a revelation and subject of comment in this community and has placed the medical profession of this section on a higher pedestal in the eyes of the public than it ever occupied before.

The average attendance of the meetings has exceeded that of any previous year, and at present the finances of the society are in better condition than ever before.

We desire to call the attention of the members to the possibilities of making the Bulletin an important source of revenue to the society. Let every member make it a point to patronize our advertisers when he can conscientiously do so and we can not only command any reasonable price for space, but would have the advertisers soliciting the privilege of using its columns.

During the past year the Board has passed upon the applications of 26 applicants for membership. Twenty-four were accepted and two were laid upon the table. It has not been and should not be the policy of the Board to solicit new members. We believe the secret of success in building up the society lies entirely



in making the meetings so attractive that no one can afford to miss them. How well this policy has succeeded is for you to judge.

We believe that in every respect the year that ends tonight has eclipsed all previous years, and hope that the year upon which we are about to enter will as fully eclipse the present one.

(Signed) G. L. McBRIDE, *Chairman.*

C. H. JOHNSTON.

R. R. SMITH.

D. EMMETT WELSH.

F. C. WARNSHUIS.

#### REPORT OF THE LEGAL REPRESENTATIVE

By G. L. McBride.

The work of the Medico-Legal committee of the Michigan State Medical Society began with 1910 and to date 41 cases of suit or threat of suit have been reported to the chairman. Sixteen of these have been fracture cases and two dislocations. There is one suit against the estate of a deceased physician which involves also his son, who is in active practice, suit being brought for chloroform death. One suit is against an ex-president of the state society for being present at a post-mortem which, it is now claimed, was not authorized. Two other doctors are involved in this case. One suit is for an unauthorized emergency amputation, one for alleged bad results from bacterial vaccines and one for post operative hernia.

The committee has directly defended but one case and lost it. This was a fracture case with conflicting testimony. The committee hopes to reverse the \$1000.00 verdict by appeal. Two other cases were tried of which one was won and one lost. The fund was not liable in these cases, as one was started before our work began and in the other the doctor was in arrears for dues.

It is impossible to state how many cases that have been reported will go to trial. There are half a dozen in different parts of the state where suits have been started, some of which will be tried.

The committee has \$3000.00 in the treasury and expects to be able to meet all demands for actual defense. As the work goes on, it will be better understood and appreciated by the profession. Many men need education as to what the committee can and can not do. The committee can provide the machinery for defense but can defend only so far as the law and facts offer defense. Fracture cases

form half the cases. This should show that we are not careful enough in treating fractures to safe-guard ourselves by the X-ray and by counsel. An imperfect result means to the laymen only an incompetent doctor and it is impossible to persuade a lay jury otherwise. An X-ray picture showing proper reduction, or reason why a fracture cannot be reduced and maintained in position would protect the doctor. At the present time in Michigan a fracture case which reaches the jury is pretty certain to reach an adverse verdict. What the Supreme Court will do in such cases remains to be seen.

I believe that time will demonstrate that defense by the state medical society will prevent suits which would be pressed against the doctor standing alone, and that as attorneys learn that we have this co-operative defense they will hesitate to harass our members unless the cause for action is based on very strong legal grounds.

Since the organization of the committee, one notice of threatened suit against a member from Kent county has been brought before the committee. This was for alleged malpractice for an unfavorable result in a fracture case. The doctor against whom the suit was threatened made application in the regular way to the committee for defense, but was advised by the chairman, who was not conversant with all the facts in the case, to settle. The doctor refused to compromise and prepared for fight. The case has been dropped and it is presumed that nothing more will be heard from it.

(Signed) G. L. McBRIDE.

#### REPORT OF DELEGATES TO STATE MEETING

By Dr. J. D. Brook.

The meeting at Detroit was very satisfactory from every side. The 26 members attending from Kent county was quite satisfactory inasmuch as usually about one half that number attend the state meeting. We would, however, urge a larger attendance particularly next year when the meeting will be held in Muskegon.

Since Dr. Spencer's term of office as councilor expired and he declined re-election it became necessary for the House of Delegates to elect his successor. To fill this vacancy Dr. W. J. DuBois of this society was duly elected councilor.

Last but not least Kent county brought home the bacon. A most distinguished gentleman from Kent was unanimously elected president

of the state society for 1912—Dr. D. Emmett Welsh.

(Signed) J. D. BROOK.  
C. H. JOHNSTON.  
W. J. DuBois.

Dr. J. B. Griswold, chairman of the public health and education committee, Dr. H. W. Catlin, chairman of the library committee, Dr. Corbus, chairman of the social committee, all made verbal reports.

Dr. S. C. Graves, chairman of the public health education committee submitted the following report:

#### REPORT OF THE PUBLIC HEALTH EDUCATION COMMITTEE

Your committee reports having this year taken up the matter of the Van Bysterveldt Medicine Company of this city with the local U. S. Postal Inspector. He states that much has had to be done for the Postal authorities in order to bring about the probability of conviction.

This has been delayed considerably, but is now before the authorities at Washington and a definite statement from them as to the final disposition of the case may be expected shortly. We recommend that the new committee take up and push this matter to its final completion.

Concerning the work done by the various members of this society in delivering lectures on public health matters during the current year before different bodies and organizations in the city or elsewhere, we report the following:

Forty-seven lectures were delivered altogether. They are itemized as follows:

Dr. Frances Rutherford: At Women's clubs 2; at box factory 3; at American Laundry 5; at Mother's Club 1; at Sibley St. School 1; total 12.

Dr. Rosenthal Thompson: at Women's Club 1; at box factory 1; total 2.

Dr. William Fuller: At West Side Woman's Club 1.

Dr. Cora Moon: at Johnson's cigar factory 8; at High School 2; at North End Woman's Club 1; at Mother's Club 1; total 12.

Dr. Maria Norris: at Mother's Club 1; at Women's Club 1; at Palmer Ave. School 1; total 3.

Dr. Burton Corbus: to 60 public school teachers on "The Defective Child" 1.

Dr. T. M. Koon: at Y. M. C. A. 1.

Dr. C. H. Johnston: at different places in the city 12; Stanton 1; Hastings 1; Grand Haven 1; total 15.

It will thus be seen that this committee has done considerable work along the line of its duty. This might have been more, but then it might have been less.

(Signed) S. C. GRAVES.  
FRANCES RUTHERFORD.  
CORA MOON.

#### SECRETARY'S ANNUAL REPORT

By F. C. Warnshuis

I have the honor of submitting the following as my annual report for the year just closing:

Members enrolled . . . . .	154
New Members Elected . . . . .	24
Meetings held . . . . .	14
Total Attendance . . . . .	987
Average attendance . . . . .	70
Papers read . . . . .	25
Clinical Cases Reported . . . . .	68
Members entering into discussions of cases and papers . . . . .	109
Invited Guests . . . . .	11
Mail matter handled, pieces . . . . .	5621
Inquiries for information answered . . . . .	26

#### FINANCIAL REPORT

##### RECEIPTS

Membership dues . . . . .	\$713.75
Collection of Resources . . . . .	153.31
Smokers . . . . .	26.60
Bulletin advertisements . . . . .	309.00
Total receipts . . . . .	\$1202.66

##### DISBURSEMENTS

Rem. State Secretary . . . . .	\$426.50
Paid out-standing debts . . . . .	137.00
Smokers and luncheons . . . . .	117.50
Printer . . . . .	212.00
Secretary's expense acc't . . . . .	55.13
Misc. and com. ex . . . . .	46.25
Invited guests . . . . .	24.10
Rent . . . . .	50.00
Total disbursements . . . . .	\$1068.48
Balance on hand . . . . .	134.18
	\$1202.66

with no outstanding obligations or debts.

The above conveys to you in cold figures that which has been accomplished during the past year. Following a precedent established in former years permit me to add the following comments:

## THE BULLETIN

This has been mailed to every reputable physician in the county, our advertisers, our guests, and copies have been exchanged with other societies and publications. In all two hundred and fifty copies have been mailed at each issue. Our society having held but fourteen meetings this year but fourteen issues of the Bulletin were published, upon which a net profit of \$97 was made.

I believe that we can now say that the Bulletin has accomplished one of its objects; namely, to acquaint every physician in the county with the work of our society and to enlighten him as to why he should become a member. This missionary work should now be discontinued and, in the future, its subject matter should consist of abstracts of the papers presented, together with a stenographic report of the discussion thereon. This service may be obtained for an expenditure of \$5.00 per meeting. I trust that this meeting will not be permitted to close without your taking necessary steps to authorize your secretary to engage the services of such a stenographer.

## ADVERTISING

It is easy enough to persuade a business man to advertise, providing you can show him how he is going to get a fair return for the money thus invested. Our position is this, and by "our," I mean the society and its members individually. If you want your Bulletin and its profits and its smokers continued you have got to make a determined effort to notice who our advertisers are and not only to notice them but to patronize them, and to let them know why you are doing so. This is a cold business proposition. If you follow this suggestion you can continue the Bulletin, make it larger, run more ads. and reap greater profits.

## MEMBERSHIP

This year has seen the election of 24 new members. Our membership roll now contains the names of 154 members and I believe it is representative of the physicians in Kent county. There remain some who, while eligible, are still non-members. Why they do not affiliate, I do not know. They have been invited to our meetings, they have been made conversant with our objects and the value of membership. If, after all this, they cannot see the value of affiliation, I then would recommend that they be permitted to pursue their cloistered existence unmolested and without further so-

licitation and that, in the future, our meetings be open to members only, for some of them do turn out when we have invited guests and thus enjoy the benefits without affiliation or the payment of dues. All of which is respectfully submitted with a sincere expression of thanks for the honor bestowed upon me.

(Signed) F. C. WARNSHUIS, *Secretary*.

The president now called the vice-president, J. D. Brook, to the chair and delivered his annual address.

## PRESIDENT'S ANNUAL ADDRESS

As your presiding officer for the past year I have endeavored to act in justice to all.

Since the re-organization of the Michigan State Medical Society and the Kent County Society it has been a struggle, primarily, for existence. At that time Dr. Whinery was councilor and I succeeded him for two years and was followed by Dr. Spencer.

With the able work of the officers each year has proven a betterment on the previous year and now, as the Bulletin tells us, we have almost reached the topmost rung, almost numerically. There is still room for improvement which the in-coming officers will, no doubt, accomplish.

The society has conferred upon me many honors; first, as councilor; second, your presiding officer for the past year; and lastly, the great honor of presiding at the deliberations of the state society, at its next annual meeting.

I fully appreciate these honors and whether I do or have merited them you alone are to be the judge.

In making this my retiring address, I do not wish to be pushed or lain aside or to be given the "Irishman's Promotion," but I want to and will take an active part in all things medical and am ready and willing to serve.

There are certain things we lack and the time is now ripe for their accomplishment.

First. A club house and library. This has been so elaborately dwelt upon by our secretary in the Bulletin that I will not further burden you. I will be one of you at any time to push it along and add any pro rata.

Second. A revival of the suggestion made by Dr. Rozema in his presidential address, as to the necessity of an ambulance surgeon on our public ambulance.

Third. The establishment of a biological department at the State Board of Health for the purpose of making a Wasserman's test for indigent cases. Since the curative power of

Salvarsan is so well established the importance of this measure is easily understood.

Fourth. The public health education committee of the state society of which Dr. Rutherford is chairman and Dr. Moon a member, has prepared a program for the coming year which will bear good results. We should all lend our aid as its work is as important as that of the tuberculosis committee and truly preventative.

Fifth. As the Grand Rapids Academy of Medicine and the Kent County Medical Society are so intimately connected, I believe the program committees should confer, thus preventing a repetition or similarity of papers or essays from out of the city.

Sixth. The importance of delegates to the state society should be borne in mind. Certain ones should be kept in that capacity, as better service may thus be obtained, and further, the secretary of the society should always be a delegate.

All of which is respectfully submitted.

D. EMMETT WELSH.

#### ELECTION OF OFFICERS

The following officers for the ensuing year were then elected: *President*, Burton R. Corbus; *Vice-President*, O. C. McDonnell; *Secretary-Treasurer*, F. C. Warnshuis; *Assistant Secretary-Treasurer*, E. W. Dales; *Legal Representative*, G. L. McBride; *Delegates to the State Society*, F. C. Warnshuis, J. D. Brook, R. H. Spencer; *Alternates*, L. A. Roller, S. L. Rozema, A. J. Baker.

Moved by Dr. Patterson, supported by Dr. Griswold, that the secretary be voted an honorarium of Fifty Dollars.

Moved by Dr. DuBois, supported by Dr. McBride, that a committee of three be appointed by the chair whose duty it shall be to submit to the society plans and means for the obtaining of a medical club building. Carried.

The chair appointed as such committee: Dr. G. L. McBride, chairman, R. R. Smith, T. C. Irwin.

Moved by Dr. Schurtz, supported by Dr. Welsh, that the secretary be instructed to correspond with the secretary of the State Board of Health relative to the recommendation made in the president's address regarding the making of Wasserman's tests by the State Board of Health. Carried.

Moved by Dr. Schurtz, supported by Dr. Kinsey, that the chair appoint a committee

of three who shall confer with the police and fire board relative to the employment of public ambulance surgeons.

The president elect, Dr. Corbus, was escorted to the chair by Drs. Barth and Graves.

There being no further business the meeting adjourned.

F. C. WARNSHUIS, *Secretary*.

#### MUSKEGON-OCEANA

Regular meeting of the Muskegon-Oceana County Medical Society was held with Drs. F. B. Marshall and P. J. Sullivan, Friday, Nov. 10th, 1911, at the Occidental Hotel.

A surgical clinic was held by Dr. Marshall at Hackley Hospital at 1.30 P. M.

Dinner was served at the Occidental Hotel at 6:30 P. M., and the meeting was called to order by the president at 8:00 P. M.

Members present: Drs. Geo. S. Williams, F. B. Marshall, W. L. Griffin, R. G. Olson, I. M. J. Hotvedt, P. A. Quick, J. T. Cramer, W. A. Campbell, P. J. Sullivan, L. I. Powers, and V. A. Chapman.

Drs. DeHaas of Fremont and Burns of Fremont were visitors.

Minutes of the last meeting were read and approved as read.

Dr. P. J. Sullivan read the paper of the evening on, "Intestinal Obstruction." The discussion was opened by Dr. Marshall, followed by Drs. Griffin, DeHaas, Burns, Williams, Hotvedt and others.

Meeting adjourned.

Regular meeting of the Muskegon-Oceana County Medical Society was held at the Occidental Hotel, Friday, Nov. 24th, 1911, as the guests of Dr. V. A. Chapman.

Dinner was served at 6:00 o'clock and the meeting was called to order by the president at 8:00 P. M.

Members present: Drs. Geo. S. Williams, L. N. Eames, I. M. J. Hotvedt, Jacob Oosting, P. A. Quick, P. J. Sullivan, J. F. Denslow, A. A. Smith, J. T. Cramer, L. I. Powers, W. P. Gamber, R. G. Olson, G. J. Hartman, W. L. Griffin, J. D. Buskirk, J. M. Vander Ven, and V. A. Chapman.

Dr. H. W. Woodruff of Joliet, Dr. Gerling of Reeman and Dr. H. C. Parker of Hackley Hospital were visitors.

Dr. H. W. Woodruff of Joliet, read the paper of the evening, his subject being, "Injury to the Eye," dealing especially with perforating wounds.



The discussion was opened by Dr. Gamber who was followed by Drs. Hotvedt, Chapman and others. Dr. Woodruff closed the discussion.

It was moved, seconded and carried that the executive committee appoint committees for the work of the state meeting to be held at Muskegon the coming year. These appointments to be subject to the approval of the Society at the next meeting.

Meeting adjourned.

V. A. CHAPMAN, *Secretary*.

### OTTAWA

The regular December meeting was held Wednesday evening, December 13, at the Colonial Cafe in Grand Haven. The meeting was a very enthusiastic one. Twenty-two members and guests were present which is a record breaker for Ottawa.

After dinner was served the society very happily surprised Dr. A. Van Der Veen of Grand Haven, by presenting him with a handsome gold-headed, ebony cane. Dr. C. P. Brown of Spring Lake, presented the gift. He spoke with a great deal of feeling, of Dr. Van Der Veen's faithfulness and loyalty to both his profession and the physicians with whom he associated. Dr. Van Der Veen responded in a manner which fully expressed his appreciation of the tribute which had been paid him.

Dr. E. S. Walkley of Grand Haven, was then introduced as toastmaster. Most of his ready wit was turned loose on Dr. Brown, long a bitter foe across the dinner table.

Dr. H. Kremers of Holland, spoke on the subject. "The Physician and Politics." He emphasized the fact that physicians who are able and who are independent, ought to give some of their time to politics and take an active part in the struggle for better health legislation. He encouraged the candidacy of Dr. E. Hofma of Grand Haven, for the state senate, and urged that we do all we can to help nominate him.

Dr. E. Hofma spoke on "My Experience with So-called Christian Science." He quoted largely from the book "Science and Health," and also from Mark Twain's interesting Christian Science story.

Dr. A. T. Godfrey of Holland, spoke on, "The Relation of the Physician to the Board of Health." He urged the physicians to be more careful in supporting the health authorities; and to be more thoughtful in what they say to patients, not to discredit the rules of the Board of Health.

Dr. J. F. Peppler of Byron Center, President of the Society, spoke on "What Should We Aim to Accomplish During the Coming Year." He gave a brief outline of the aims of the American Medical Association, and the Michigan State Medical Society. He urged that we strive to work in harmony with them as nearly as we can for the betterment of our profession.

A resolution was then unanimously adopted that we approve of the candidacy of Dr. Edward Hofma of Grand Haven, for state senator to represent Ottawa and Muskegon counties, and that we pledge our support and do all we can to help nominate him on the Republican ticket:

WHEREAS, We believe that the science of medicine has done much for the promotion of health and happiness, perhaps more than any other science; and

WHEREAS, We believe that much can be accomplished in the future in preserving health and promoting happiness by enacting proper laws that will aid in the struggle for the prevention of disease; and

WHEREAS, We believe that our state legislative body should be composed in part of men who are thoroughly acquainted with the science of medicine and health, and can therefore better appreciate the importance of its promotion as well as the promotion of other problems; and

WHEREAS, Dr. Hofma has signified his willingness to sacrifice personal ambition and respond to the call to enter the broader field of service in the interest of the people of the state of Michigan; and

WHEREAS, We know him to be a man of sterling worth and true to his convictions, be it hereby

RESOLVED, That we, as members of the Ottawa County Medical Society, approve of his candidacy, pledge our support and urge upon the voters of Ottawa and Muskegon counties to help nominate him as a candidate for the state senate on the Republican ticket.

WILLIAM DEKLEINE, *Secretary*.

### TUSCOLA

The Tuscola County Medical Society met at Hotel Montague, Caro, Dec. 11, 1911. The program consisted of a paper on "Rectal Fistula" by Dr. Wm. L. Dickinson, Saginaw, and a paper on "Diagnostic Hints in Mental Diseases" by Dr. C. B. Burr, Flint.

W. C. GARVIN, *Secretary*.

### WAYNE

At the general meeting on November 6, 1911, Dr. Robert G. Owen read a paper, illustrated with a printed chart, on "The Present Status of '606'."

In the absence of the secretary, Doctor Jamieson, Doctor P. M. Hickey was appointed by the chair to act as temporary secretary.

One hundred and twenty-seven members were present.

#### The Present Status of "606"

By Dr. Robert G. Owen.

While we can now speak concerning the immediate effect of "606" it will take years to determine its true value as a curative agent in syphilis.

Two facts, however, have been clearly shown: 1st. That *Theapia Sterilizans Magna*, the eradication of syphilis with one dose of "606," has most certainly not been realized. 2nd. That in "606" we have a most valuable adjunct to our present armamentarium syphiliticum.

Whatever method of administration be followed, few, if any, cases of syphilis will be cured by the present average dose.

The early reports were most enthusiastic, but further observations on these cases have shown a disappointingly large number of relapses, especially where the cases have been followed serologically, as often a positive blood reaction will be the only symptom remaining, as the drug has a marked tendency to convert an active syphilitic into a latent one.

We have followed serologically and clinically 65 cases of lues, of whom three were cases of general paresis in whom no improvement was shown. In the remaining 62 cases, in all stages of lues, 26 or over 40% have shown clinical relapses, or have still continued to give a positive blood reaction. Many more of these cases will undoubtedly show relapses in the future, as some of them have only been observed for a month or two. Other observers including Fox, Politzer, Trimble, Wolbarst, Fordyce, and many others, have found an equally large percentage of failures after "606".

"606," however, has a most prompt and remarkable action on most syphilitic symptoms, and this action is due to an actual destruction of the parasites. Its destructive action on the *treponemata pallida* is more marked than that of mercury. KI has been shown to have no effect on the germs.

The remedy should not be used where any contraindications are found.

Its use is advisable in cases which have resisted mercury, where prompt and immediate effect is very essential, and, in general, to promptly render active primary or secondary lesions less infectious.

The consensus of opinion at present favors the giving of one, two or three intravenous injections, preceding and following these with inunctions or hypodermics of mercury.

#### CONCLUSIONS

1. In "606" we have the most potent weapon for combating syphilis that the world has known.

2. A single injection of the present advocated dose of "606" will cure few, if any, cases of syphilis.

3. The earlier the stage of the disease the more favorable the results attained.

4. Whether the more vigorous use of the drug as now advocated will cure syphilis has not yet been determined.

5. The intravenous method is, at present, most strongly advocated.

6. The present ideal treatment is the giving of several intravenous injections preceded and followed by mercury.

7. All cases should be followed serologically as a positive Wassermann may be the only symptom remaining after "606" medication; its continued presence or return after a negative phase foreshadows a relapse.

8. No dependence should be placed on a single negative Wassermann reaction, as the blood may take several months to return to positive.

#### DISCUSSION

H. R. VARNEY: This much discussed drug is still under fire and the ultimate percentage of cures can only be accurately estimated by the coming generation through careful post-mortem examinations of the syphilitic patients to whom this method of treatment has been administered. The first hope of Ehrlich, that a single mass dose would sterilize, or kill all of the specific organisms in the affected body in one fell swoop and that small repeated doses of the drug might produce an acquired immunity in the organism, has not been borne out clinically or serologically.

Multiple frequent doses seem at present to be the method of successful administration of the drug. Recurrences following the administration of a single dose in all stages which have thus far been reported are from 25% to

65%. In only those cases where the drug was administered early in the existence of the primary lesions has the percentage of the control been large from the administration of a single dose. In this stage of the infection a larger percentage of cases have been treated only with Salvarsan, therefore a more careful clinical and serological control could be observed. Through pathological changes occurring from the prolonged systemic infection from syphilis, it would not be rational to expect that one dose of the drug which is in the body so short a period of time could reach the organism in this pathological structure that is so thoroughly walled off from the blood stream. While some of the ideas of Ehrlich regarding the therapeutic action of this drug have not been realized, yet after two years of extensive clinical tests it is universally conceded that we now possess in this drug the most powerful agent in the symptomatic control of syphilis.

In animal experimentation the drug has demonstrated that it possesses a parasitotropic action for the organism which causes its rapid destruction. In the congenital new-born, where the salt is administered and the patient succumbs, the microscopic examination of the different structures show death of the treponemas and disintegration of the organisms taking place within 24 hours after its administration.

While my personal experience of fourteen months with Salvarsan has been small in comparison with the reports of many syphilographers in the large centers, my first hundred cases which were selected for administration of this drug with but two exceptions were private cases. The opportunity to carefully observe, clinically and serologically, from week to week, this class of patients, is far more valuable than many hundred out-door clinical patients who do not realize the importance of treatment or the gravity of infection, and who are lost sight of in a large percentage of cases directly following its administration. In this series of cases which are now being tabulated, all, without exception, have been submitted to one or more Wassermann tests before the administration of Salvarsan, and repeated tests after, care being taken that the test was uninfluenced for weeks preceding by other medications or alcohol. Unless careful estimation of the blood content be made before the drug is administered the value of the readings following its administration have been diminished as a therapeutic guide, materially.

Repeated blood examinations by the Wassermann test are without question a most valuable guide (if frequently repeated) in the therapeutic management of the syphilitic, and further, the administration of the iodide of potassium from five to seven days preceding the test renders the result from the reading far more crucial. If the organism in the latent case is thoroughly walled off by, perhaps, an obliterating endarteritis and the organism is in perfect harmony with the host, the administration of the iodide of potassium in rapidly increasing doses will break down and throw into the blood stream such walled off conditions and often render a negative Wassermann of months markedly positive. The Wassermann test is gradually reversed from a strongly positive to a negative in from three to eight weeks in a large percentage of cases following the administration of Salvarsan. A continued negative test depends much upon the stage of the disease and the methods of treatment.

In the latent stages of syphilis with a distinct clinical history with no active symptoms present and the Wassermann tests repeatedly negative after iodide administrations, the globulin test of Noguchi should be employed. Some investigators believe this test appears earlier and lasts longer than the Wassermann test, and therefore is more valuable as a check test.

The strongest proof we yet possess in regard to the curative action of Salvarsan is in the reinfect cases. L. Geyer and R. Krafing cite positive proof of three reinfections following the administration of Salvarsan. With our present knowledge, early treatment affords the largest percentage of cures. Every primary lesion should be submitted to the dark field illumination for the demonstration of the organism. Repeated Wassermann, when possible, and submitting the excised tissues to further microscopic examination, tests made as early as possible, and if these two tests are positive, excision of the lesion. Salvarsan should then be administered at once and repeated upon this evidence. With such treatment we are able to modify or abort the secondary symptoms and greatly lessen the possibility of infecting others."

A. P. BIDDLE: Hardly any physician who has witnessed the results obtained with the use of Salvarsan doubts its efficacy.

Experience, however, having shown that the single injection of the present advocated dose fails in a majority of cases to cure syphilis not only serologically but clinically, it is necessary



to repeat the injection of the Salvarsan once or twice and preferably to combine this treatment with a course of mercury by inunctions or injections, and, in some of the later cases, with the iodide of potassium, as conditions may indicate in the individual patient.

The intravenous route, (which we now have almost exclusively adopted) is, for many reasons, the preferable. The attending pain is less (sometimes nil); the reactions and the danger of complications are sooner over; the patient may leave the hospital or bed in 3 to 5 days; there is no danger of sloughing if the technique be proper; the arsenic is eliminated within a few days; and, serologically, the results are for the better, the Wassermann reaction remaining negative for a much longer time.

Theoretically, all cases should be submitted to the serological tests as frequently as is deemed advisable; but, unfortunately, many of the patients cannot stand the expense of repeated laboratory tests, and the physician must, therefore, often rely upon the clinical evidences.

C. M. STAFFORD: While agreeing with the speaker, that Ehrlich's hope of a sterilizans magna has not been generally achieved, I feel certain, however, that its failure of achievement can in no wise be laid up to the drug itself or to Ehrlich.

McIntosh, Fildes, and others have proven beyond question, that the drug is powerfully destructive to the treponemata. A bullet fired from a gun has been proven repeatedly destructive to animal and bird life, but who would think for an instant of hunting moose with birdshot. No more sensible, I believe, is the manner of giving Salvarsan today.

And yet that is exactly what we are doing. A ninety pound woman presents herself for treatment and is given a dose of .6 gm. of Salvarsan; a two-hundred pound man comes under our care and gets the same amount.

Some workers are giving far larger doses than that which we, at present, are considering the proper one, and with benefit to their patients. If a rabbit which weighs approximately four pounds, with a blood injection of treponemata, requires one-sixth of the average human dose of Salvarsan to free it of its infection, it would seem that the optimum amount to be administered a human being would perhaps be greater than we now consider it.

Then, too, an early case of syphilis is far more amenable to Salvarsan treatment than is a case of long standing infection. In the former, the spirochaetes have not yet become difficultly accessible and hence are more surely destroyed and by a smaller dose than is the case in chronic infections. In the latter we face a very similar condition to that encountered in the treatment of chronic bacterial infections of bones and bony cavities.

In chronic infections where the infectious elements are so effectively surrounded by a protective wall and where, at best, the drug is only in the circulation for a short time, it can scarcely be expected that one dose will destroy them. In these chronic cases, therefore, it is to be expected that repeated doses will be necessary.

The mode of administration is also an important consideration from both the therapeutic and practical standpoints.

In the case of primary or early secondary manifestations, it would seem that the intravenous route were preferable. The organisms are then free in the blood and lymph systems, and hence, are easily destroyed. Indeed, it seems to be generally conceded that such cases are in the majority among those rendered permanently Wassermann-negative.

In the more chronic cases, however, in which many of the organisms are effectively protected because of the small amount of Salvarsan-bearing lymph which is able to reach them, it seems to me that the intramuscular route is the preferable one. In this instance, exposure for a longer time to a weaker concentration of the drug would seem to be the best.

Of course, against this mode of administration is urged the danger of the exposure of the animal body to a slow arsenical poisoning, since it has been determined that when the intravenous method is employed, the arsenic is very rapidly eliminated, while in the case of the intramuscular, it may be detected in the urine for some time. However, in my experience of forty-seven injections, and some patients have received three and four injections, I have yet to note a practical manifestation of this theoretical fear.

We must acknowledge that many of our patients are financially unable to bear the expense attached to intravenous administration. To them and to the average practitioner, the intramuscular route will remain the preferable one.



And at this juncture let me say that the pain which accompanies the intramuscular injection is not as important a feature as most of us imagine. To be the least painful the drug must be freshly prepared. Oxidation is so rapid that it will not do to have it prepared at an apothecary shop and administered to the patient an hour or two later. To this fact I believe much of the pain and some of the sloughs are due. The physician can prepare his own Salvarsan better than the druggist, and, when carefully prepared as to alkalinity, and administered fresh, the procedure is easily and safely carried out in the patient's home or in the physician's office. If Salvarsan treatment is to occupy the position it deserves, it must be given in such a manner as to be the least painful and the least expensive. Then its administration can be pushed to the desired degree. In my experience if the drug is so injected immediately after its preparation, and its alkalinity is carefully attended to and the injection made deep into the gluteal muscles, the patient will complain of very little discomfort, even on the third or fourth day.

A. P. OHLMACHER: I have availed myself of the serologic control in but one case of refractory secondary syphilis, treated as is my custom, with three intravenous 0.5 gm. doses of Salvarsan.

From the standpoint of clinical observation, I have now had quite an extensive experience, the result of which has been to change my original attitude of conservatism to one of decided optimism as regards the therapeutic value of Ehrlich's specific. In secondary and tertiary syphilis under varying conditions and diverse lesions I have obtained results that have exceeded my fondest expectations. My technic has been exclusively that of the intravenous method with its great advantage of rapid drug effect, painlessness and freedom from after results. Whenever I commanded the situation I have resorted to three injections averaging 0.5 gm. of Salvarsan at intervals of two or three weeks.

Doctors Joseph Sill and William E. Keane also discussed the paper.

At the meeting, Nov. 13, Dr. Herbert M. Rich reported a case of Paroxysmal Tachycardia, this being the second case occurring in his private practice. The first case was also reported to this Society in February, 1910, and subsequently published in the Journal of the American Medical Association, June 14, 1910.

Dr. David Ingilis read a paper on "Some Therapeutic Problems with Reference to Blood Pressure."

Dr. James Cleland, Jr., and Dr. R. L. Clark acted in their regular capacities as chairman and secretary of the medical section. Fifty-four members were present.

At the general meeting on November 20, 1911, Dr. H. W. Hewitt read a paper, illustrated with the stereopticon, on "The Operative Treatment of Retrodisplacements of the Uterus."

Dr. Samuel Amberg, Associate Professor of Pediatrics in Johns Hopkins University, as guest, addressed the Society, taking as his subject, "Some Observations upon a Few Phases of Breast Feeding."

Dr. W. F. Metcalf demonstrated two specimens recently removed in his operative work, the one a proliferating, papilliferous cystadenoma of the ovary, the other a fibroid uterus coincident with a dermoid cyst of the ovary in the same patient.

The following persons were admitted to membership upon vote of the Society, they having been recommended by the Board of Trustees:

Associate, Carl C. Worden.

By Transfer, Frederick Edmister, David J. Levy.

Active, Louis C. Baribault, D. D. Costigan, Wm. G. G. Coulter, E. K. Cullen, X. A. Jones, E. T. Milligan, C. C. Wright, F. X. Zinger.

The chairman, Dr. Walker, appointed Dr. Carstens to act as temporary secretary in the enforced absence of the secretary, Dr. Jamieson. Seventy-five members were present.

### Some Observations Upon a Few Phases of Breast Feeding

By. Doctor Samuel Amberg.

Breast feeding is not always a simple matter, and since it affords the infant a greater chance for life and health, it is very essential that the study of the technic of nursing in its widest sense should receive very close attention, much more than it has received hitherto. A few phases of this problem are considered.

All the data at our command gleaned from clinical observation as well as from animal experimentation, speak in favor of larger meals and greater intervals from the start and against the recommendation of a two hour schedule even for a few weeks. A smaller number of meals are of advantage alike to mother and in-

fant. Adopting a regime of five meals—only to be changed when necessary—it will be possible to keep a larger number of infants at the breast. Night-feeding should only be given when circumstances demand it and not as a rule. The duration of the single meal is determined by the baby, who should never be induced to nurse longer than it shows evident desire to do so.

When lactation is delayed, we should not resort to regular artificial feeding too soon, keeping in mind that suckling is the most potent stimulus for lactation and that lactation has been established successfully after a fortnight or more. It is frequently possible to establish a lost lactation by persistent suckling. Milk stasis has to be avoided.

Over-feeding and under-feeding cannot always be differentiated. We may distinguish two types of under-feeding; one, where the quantity of milk would be sufficient but the quality is poor, and one where the quantity of milk is insufficient. In the first instance a milk analysis is desirable. The method of collecting the milk for analysis is just as important as the analysis itself. The analysis of samples of milk taken at random is absolutely valueless.

Aside from determining the amount of food taken by the infant by weighing it before and after nursing, the examination of the urine may be of value, particularly with reference to the determination of phosphoric acid, glycuronic acid and the index of reduction. The danger of over-feeding can be demonstrated strikingly by the diagrammatic illustration of von Pirquet.

### **The Operative Treatment of Retrodisplacement of the Uterus**

By Dr. H. W. Hewitt.

There are many types of operations for the correction of retrodisplacements of the uterus.

The Alexander operation, in simple, uncomplicated cases, fulfills the indications.

Ventrosuspension and vaginal operations should be performed only after the climacteric, or in patients in whom the possibility of pregnancy is out of the question.

Operations upon the sacro-uterine ligaments have not been sufficiently developed to be considered.

Intra-abdominal operations for shortening the round ligaments may be divided into two classes; viz., A. Those which depend upon the proximal or strong portion of the ligament

for support. B. Those which retain the distal or weak portion.

An ideal operation should fulfill the following requirements: 1. It should be based upon strong anatomical and mechanical principles. 2. It should be adaptable to all displacements. 3. It should leave no raw or injured surface. 4. It should leave the parts in such condition as to permit of evolution during pregnancy and involution thereafter. 5. It should leave no transperitoneal bands. 6. It must substitute no new pathological condition. 7. It must be safe and easy of performance. 8. It must possess the least possible morbidity. 9. It must assure us of permanency of results with or without future pregnancy. 10. The incision necessary for its performance should permit treatment of co-incident affections.

From the number of operations which have been introduced for the correction of displacements, it is evident that none of these have been exactly what was necessary in all cases.

Of the operations in class A there is one which is anatomically and surgically correct and which fulfills, more nearly than any other, all of these requirements.

This is the operation performed with minor differences in technic, by Amann, Hoffmeier and others abroad, and Barrett, Mayo, Simpson and others in this country.

The technic is briefly as follows: Abdomen is opened in the median line just above the pubes. Co-incident intra-abdominal affections are dealt with. The ligament is picked up at a point  $\frac{3}{4}$  of the distance from the uterus to the internal ring, and a traction suture thrown around it.

The edge of the rectus sheath close to the lower angle of the incision is grasped and a forcep is passed to the internal ring, where it follows the round ligament to the traction suture. The peritoneum is here punctured, the forcep is passed through and grasps the suture. The ligament is now withdrawn and stitched to the under surface of the anterior sheath of the rectus with catgut.

This operation has the following advantages: It leaves no opening for strangulation of the bowels and no raw surfaces where adhesions may form. The ligament leaves the abdomen at its normal place and utilizes the normal structures as a pulley. The uterus is now held by the strongest part of the round ligament, a ligament which has capacity for evolution during pregnancy and involution thereafter.

It may be employed where there are intra-abdominal complications of any extent. It does not create new pathological conditions and forms no new ligament. It shows high efficiency for holding the uterus forward and yet allows a normal range of movement. It renders tense the anterior leaflet of the broad ligament which is almost invariably relaxed in retrodisplacements of the uterus.

At the meeting of the surgical section, November 27, 1911, Dr. C. D. Brooks read a paper, illustrated with diagrams and X-ray plates, on "Calculi in the Urinary Tract."

Dr. William J. Cassidy also read a paper on "The Diagnosis of Genito-urinary Conditions by the Cystoscope and Ureteral Catheter." This latter paper was also illustrated by charts and X-ray plates.

The Reporter is unable to present an abstract of the above paper because of failure on the part of the author to get it to him in time for publication.

The chairman and secretary of the section, Drs. Alexander W. Blain and George H. Palmerlee, presided.

Ninety-three members were present.

### Calculi in the Urinary Tract

By Dr. C. D. Brooks.

One of the most common and dangerous conditions of the kidney is calculus. In many instances of irritation from impacted calculus, we have a destruction of the entire kidney, or if such calculus becomes lodged in the ureter, we have a train of symptoms brought about in which the function of the kidney is temporarily or permanently impaired.

Calculi in the kidney are formed from two causes; general and local. Among the former are improper diet, inefficient water, character of the water, deficient exercise and the use of alcohol, etc. Local causes are enlarged prostate or stricture, foreign bodies, inflammatory conditions, blood, bacteria, and spinal diseases. Calculus may exist in the kidney and cause no symptoms, but, as a rule, it causes more or less irritation, followed by inflammatory results, such as pyuria, chronic or acute nephritis or pyelitis. Such conditions are followed by pyonephrosis and hydronephrosis, which, if long continued, lead to the destruction of the entire kidney.

The chief symptoms of renal calculus are frequent micturition, pain, local or radiating, hematuria, pyuria. The pain is often accompanied by prostration and is made worse by exertion. Following the lodgement of calculus in the ureter we may have calculus anuria, either from calculi in both ureters or calculus in one, which causes a reflex anuria of the other. The history of the patient if carefully taken, is of inestimable value as an aid in diagnosis, and this will be sufficient to make the diagnosis in a large number of cases. However, we should never make a positive diagnosis from the subjective symptoms but with the aid of the X-ray and ureteral catheter, can make a positive diagnosis in 95% of the cases.

Calculi in the ureter are very dangerous and if the entire lumen is occluded we have a calculi anuria.

Operations upon the kidney or ureter should never be performed without first making an examination of the other kidney by means of the cystoscope, and segregation of the urine by means of the ureteral catheter. By this means we are able to place surgical diseases of the kidney upon a rational basis, and many errors will be avoided if such examination is included as a routine practice. All calculi in the kidney or ureter should be operated upon as soon as diagnosis is made except in extraordinary cases, among these being small stones which we may treat expectantly for a time. The prognosis is good in all cases without complications. In event of nephritis or extensive damage to the kidney parenchyma, the prognosis will be in direct ratio to the pre-existing pathology.

Doctor Metcalf, in opening the discussion, said: "Dr. Brooks says that in twenty per cent of the cases the stone is present in both kidneys. This fact makes nephrotomy preferable to nephrectomy even though the kidney being explored has but a small amount of secreting tissue. It goes without saying that the functioning capacity of the other kidney be determined previous to the operation. In multiple abscesses from other causes nephrectomy is frequently the operation of choice because of the impossibility of perfect and complete drainage. Where abscess is not found in kidney substance, the stone should be removed through an incision made into the posterior wall of the pelvis of the organ and longitudinal



to its blood-vessels. Whenever possible, the opening in either kidney, pelvis or ureter should be closed.

"Dr. Brooks speaks of cases in which the presence of stone causes no symptoms. Unless a careful history is taken symptoms may be overlooked. Digestive disturbances are frequently found because of the close connection of pneumogastrics with the renal plexus. Stones should be removed as soon as diagnosis is made if there exist no contra-indications, because of the danger of resulting cancer. I have seen several cases of cancer of the prostate in presence of stone. These micro-photographs show the direct causal relation between stone and cancer in the urinary tract and demonstrate the truth of Virchow's observation that the irritation of a foreign body may cause a change in the epithelium and the development of papillae. The patient, a man, aged 47, gave history of having had repeated attacks of renal colic from childhood, the intervals being at times as long as ten years. Photo No. 1 shows non-malignant papillary growths in kidney pelvis where the stone was formed. In some parts, the transitional epithelium is seen to be changed into columnar. Serial sections of the ureter showed progressive change in character of the epithelium until at the point of lodgment of the stone in the ureter near the bladder, adenocarcinoma was present, as shown in photo No. 3. He subsequently died of metastases.

"Diagnosis in some cases is difficult. I recently had a case giving the classic symptoms and signs of renal calculus. Exploratory operation showed angioma extending from beneath the capsule into the medullary portion of the kidney.

"In another case which gave a history of periodical attacks of bladder irritation only, the ureter was found completely obstructed and the kidney greatly enlarged and its functioning capacity destroyed by inflammatory change."

Doctor P. M. Hickey said: "The successful use of the Roentgen ray as an aid in the diagnosis of urinary calculi depends upon the care and skill in the making of the diagnostic plates and upon their proper interpretation.

"The preparation of the patient for the examination constitutes one of the essential features of the technique. Castor oil should be administered the evening before in sufficient quantity to thoroughly move the bowels. Castor oil is preferred to 'salts' from the fact that

the intestines do not become filled with watery fluids and there is less formation of gas with consequent difficulty in interpretation. The morning after the oil is given the patient should be further prepared by a high enema and the examination should be made, if possible, with an empty stomach.

"The location of the pain complained of by the patient is no criterion as to the location of the calculus. Accordingly, the examination should embrace the whole urinary tract. Plates should be made covering the region of both kidneys, the entire length of both ureters and the entire area of the bladder.

"If the patient is very fleshy, the examination should be made with the small diaphragm, covering only a small area for each plate, and with as firm compression as possible, so as to prevent movement of the abdominal viscera.

"The necessity for the careful examination of the entire urinary tract is emphasized by the fact that there is a considerable number of cases on record in which the pain was paradoxical, that is, the stone was found upon the opposite side from which the patient complained of the pain.

"In no field of Roentgenology has there been more progress than has been made in examinations for urinary calculi. At the present time we are able, in a patient of average size, to diagnosis with considerable certainty the presence or absence of any stone of surgical size; by this we mean, that small stones in the ureter which would pass naturally and easily sometimes may escape detection. Not only are we able in the large percentage of cases to show the presence or absence of stone, but we are able also to determine the size, shape and position of the kidney. By means of the styleted catheter we are able to trace the course and extent of the ureter. If the pelvis of the kidney is injected with only one of the non-irritating silver salts, we can then determine the size of the pelvis of the kidney, and its relation to any stone which may be present.

"The element of error in these examinations depends first upon the weight of the patient, inasmuch as individuals with thick abdominal walls present certain difficulties of technique, and second, upon the composition of the stone. Naturally stones which have a large percentage of lime will be more easily found than stones which contain only a small amount. Pure uric acid stones are hard to detect, but, fortunately, are comparatively rare.



"In the examination of the bladder of old men where the vesical wall is much thickened, there is the possibility of error through the unusual thickness of the soft tissues. In the interpretation of shadows found in the lower pelvis, we are confronted with the differential diagnosis between shadows cast by small stones in the ureter and by the round shadows of calcified glands and so-called phleboliths. The latter can usually be diagnosed by their uniformly circular shape and by their position. The tract of the ureter follows a fairly constant position and calculi in the ureter are not usually round but present an elongated shape, the long axis of which will correspond to the long axis of the ureter. In cases of doubt, the passage of the styleted catheter and the raying of the patient with the catheter in situ will determine the final differential diagnosis.

"Where there have been tubercular changes in the kidney of sufficient extent to materially alter the composition of the kidney, from deposits of caseating masses we are able to make the diagnosis of tubercular kidney."

Doctors Keane, Spitzley, Cullen, J. W. Vaughn, Chene and F. B. Walker also discussed the paper.

At the general meeting, December 4, 1911, Dr. J. A. MacMillan read a paper, illustrated with numerous drawings, on "A Review of Four Hundred Cases of Rectal Surgery."

Dr. Alexander W. Blain also read a paper on "Concretions in the Salivary Duct with Report of a Case." He showed a Roentgenogram of his case, beautifully picturing the stone in situ.

A communication from the Board of Commerce, asking the Society to send a representative to attend a meeting of that body to discuss the advisability of renumbering the city, was read. The communication had been before the Board of Trustees and the Board had authorized Dr. A. D. Holmes to appear for this Society. Dr. Holmes reported the result of his meeting with the Board of Commerce. After some discussion it was moved and supported that Dr. Holmes continue as our representative and that he favor as the wish of the Society, the Philadelphia, or one-hundred-to-a-block method of numbering.

Dr. Collins, as chairman of a committee on automobile insignia, reported that progress was being made in obtaining the insignia recently adopted by the Society, that the shields were to cost one dollar per number,

and that the secretary, or in his absence, Miss White, was authorized to receive money for them and receipt for the same.

Dr. Holmes, seconded by Dr. Hirschman, moved that the Society extend an invitation to the Northern Tri-State Medical Society to hold its meeting in July in this city.

The president, Dr. H. O. Walker, and Dr. P. M. Hickey, acting as temporary secretary, presided.

Fifty-one members were present.

### **A Review of Four Hundred Cases of Rectal Surgery**

By Dr. J. A. MacMillan.

Some general considerations from this review:

1. Adequate drainage of all wounds that extend through the rectal wall into the perirectal tissue is, in the opinion of the writer, an important rule of rectal surgery.

2. Severe infection was not common in these cases, but there was a considerable number of mild infections. This is due to the attenuated condition of the bacteria of the rectum.

3. Great care should be exercised to avoid injury to the rectal tissues by harsh preparatory methods, or rough manipulations.

4. No death occurred as the result of any of these operations. The rectum is a safe field for surgery.

5. Particular importance is attached to the after treatment in rectal operations, especially in fistulae. In these cases, after operation the wound should be dressed at least once a day, and the granulations be controlled and regulated by suitable packing with gauze.

6. In a considerable proportion of cases the operations were performed under local anesthesia; for example, all operations for external hemorrhoids and polypi, thrombotic piles, and, in some instances, operations for internal piles, were performed under local anesthesia.

Dr. Hirschman, in opening the discussion, said:

The results of a man's experience with a large number of cases of rectal surgery are of great value because they help to place a definite value on the technic used by the individual. I note that in Dr. MacMillan's series, he had fifty major operations with no deaths charged to the operation. While my proportion of major operations is much larger,

I have not been so fortunate. I have had patients die within a few days after operation from acute suppression of urine, from post-operative pneumonia, and post-operative nephritis, and I have charged those cases up in my histories, against the operation, as it was the anesthetic (ether) given for the operation which started the complications, resulting in death. I recall one case referred to me for an acute intractable pruritus and who died two weeks later from double pneumonia. This man had gone to a so-called rectal specialist, not in good professional standing, who had applied pure carbolic acid to the circum-anal region, with the result that the patient was suffering from an aggravated case of carbolic acid dermatitis. On account of his intense suffering from the dermatitis, he perspired greatly, would constantly throw off the bed-clothing in his frenzy, caught cold, and developed pneumonia, to which he succumbed. This death I charged to the so-called pruritus.

In the treatment of rectal ulcerations I have adopted as my working basis three principles. These are physiologic rest, cleanliness, and drainage. This may mean, in extensive ulceration, the performance of a temporary colostomy, a cecostomy or an appendicostomy. The results in properly selected cases are ideal.

The doctor states that any non-surgical treatment for anal-fissure is time wasted. I must take exception to this statement as my experience has been to the contrary. I have cured a number of cases by keeping the stools soft—not fluid, and applying one hundred per cent solution of nitrate of silver every third day, with a resulting cure in from ten days to two weeks. Other remedies have been used in my practice with equally good results.

While I agree with the doctor that incision or excision under local anesthesia is ideal treatment, the non-surgical method certainly has a distinct place.

The recurrences following fistula operations are due to the fact that side tracts leading from the main channel are overlooked and quickly develop new channels, when the main one has been sutured or healed. If a stereoscopic radiograph is taken after the injection of bismuth paste, one will discover those side tracts and so plan his operation as to include them all and avoid the embarrassment of recurrence.

The treatment of imperforate anus in infants is extremely important. I wish to raise my voice against attempts made by some practitioners to shove a trocar through the anal site with the hope of establishing a communication with the rectum. The mortality following such procedure is terrible. The best way to handle such a case, in my experience, is to perform a temporary colostomy and allow the child to grow up to an age when the operation can be properly completed without risk. The injection of bismuth paste into the distal opening of the colostomy and radiography will show the exact size and location of the blind end of the bowel, so that one can get an intelligent idea of the possibility or practicability of an operation to remedy the defect.

I see that the president is toying with his watch, which is an intimation that I have almost exhausted my allotted five minutes. This is somewhat disconcerting, so I will close by stating that Dr. MacMillan has struck the key-note when he states that it is the intelligent personal after-care which the proctologist gives to his cases of ano-rectal surgery, which accounts for the good results as compared, for instance, with the statistics which the doctor quoted from those New York hospitals where rectal surgery is done by everyone.

#### **Concretions in the Salivary Duct, With Report of Case**

By Dr. Alexander W. Blain.

Concretions in the various glandular structures of the body are, in most cases, secondary to other pathological conditions of the gland involved. The presence of the stone and subsequent pathology cause the patient to seek relief.

This case is reported because of its comparative rarity. The X-Ray picture shows the submaxillary gland and duct of the left side involved.

Four years ago a man, twenty-six years of age, began to have pain and swelling, more especially while eating, in the region of the left submaxillary gland. About a year later the swelling became quite noticeable and involving the same region. In February, 1911, an abscess developed and was incised by his physician. A sinus resulted. The pain was not relieved and the sinus persisted.

The speaker first saw the patient in June, 1911. A large abscess had formed externally

and the tissues about the opening of the sinus were red and edematous.

The patient was sent into Harper Hospital, where he was operated upon June 21, 1911, being guided, of course, by the aid of the Roentgenogram, a positive of which I here display. I have to thank Dr. P. M. Hickey for this most beautiful picture.

Three weeks after the operation upon the duct and after the subsidence of acute inflammation, two concretions were digitally removed. The patient made a prompt recovery, the pain and discharge subsided, and the salivary fistula closed.

The speaker, from his experience, in future cases would try other means of relief before resorting to the knife and would suggest, first, X-ray for diagnosis; second, dilatation of the duct with sounds as in strictures in other locations of the body. Should these procedures fail, then incision of the duct from within the mouth. Local anesthesia, he believes, is preferable to general.

ROLLAND PARMETER, *Reporter.*

## NEWS

The City of Saginaw has adopted a milk ordinance, prepared by the Federation of Women's Clubs and submitted to the council the first of last May. The health department has complete jurisdiction over the inspection and is responsible for it. The tuberculin test of all cows at least once a year is required, together with bottling of the milk. The United States Government department of animal industry has been requested to co-operate in enforcing the requirement of the tuberculin test.

The regulations as to the quality of milk are as follows: It must contain no preservatives; no part of the cream shall be removed; no water or foreign substance added. It must be maintained at a temperature of fifty degrees Fahrenheit, or less, since one hour after the time of milking. It must not contain more than 100,000 bacteria to the cubic centimeter.

Any person selling without a license is liable to a \$100 fine, or imprisonment for ninety days, and the revoking of the license.

The Michigan Branch of the National League of Medical Freedom held a meeting in Detroit November 14, and elected these officers:

*Chairman*, Philip Breitmeyer; *Vice-Chair-*

*man*, Henry W. Hoyt; *Secretary*, F. C. Campbell; *Treasurer*, John C. Wright; *Executive Committee*, L. H. Field, Jr., Jackson; H. S. Jordon, Grand Rapids; L. H. Turrell, F. S. Knight, L. G. Younglove and Charles A. Kaichem.

The President has appointed the following physicians in Michigan to the Medical Reserve Corps of the Army:

To be First Lieutenants with rank from August 31, 1911: J. B. Kennedy, Detroit; Bret Nottingham, Lansing; J. M. Robb, Detroit. With rank from September 29, 1911: Chas. H. McLean, Caro; Alex M. Sterling, Detroit; Geo. Waters, Memphis. To rank from Nov. 20, 1911: Walter L. Finton, Jackson. With rank for December 15, 1911: Wm. J. Cassidy, Detroit; Wilfrid Haughey, Battle Creek, and Herbert M. Rich, Detroit.

Dr. R. C. Jamieson, secretary of the Wayne County Medical Society, Detroit, who has been ill with typhoid fever is well on the road to recovery. He contemplates going abroad early in February and staying until June, to rest up and to pursue post graduate work.

Dr. Ernest K. Cullen, formerly of Baltimore, is located in the Washington Arcade, Detroit, for the practice of abdominal surgery and gynecology.

Dr. Howard L. Begle, of Detroit, may be addressed at 59 Agnes Str. Munich, Germany, where he is taking post graduate work under Professor Eversbusch.

## COMMUNICATIONS

Milwaukee, Wis., Dec. 5, 1911.

To the Editor the JOURNAL,  
Michigan State Medical Society,  
Battle Creek, Mich.

DEAR SIR.

Were Barton Cook Hirst less eminent as an obstetrician, he would hesitate, in my opinion, to express himself as he does in the opening paragraph of a "communication" in your issue of December:

"Of all branches of medical practice, it is generally admitted, I think, by those who have investigated the subject, that young physicians are least well prepared in obstetrics, and that lack of adequate preparation in this branch is



productive of more harm to the community than a deficiency in any other."

Can a scientific man establish the proposition that attendance during a physiological process, such as child birth, by an inadequately prepared physician, *is productive of more harm to the community than a deficiency in medical diagnosis?* I'd not hesitate to restrict my challenge to tuberculosis and match cases with him, not in numbers but in *harm to the community*. Even a propagandist should not lose his scientific balance and trip over his enthusiasm.

Very truly yours,

H. E. DEARHOLT.

## BOOK NOTICES

**The Physician's Visiting List for 1912.** Philadelphia: P. Blackiston's Son & Co.

This pocket day book contains all the good features it has had for so many years: Rules on Incompatibility, Treatment of Poisoning, Table of Weights and Measures, Dose-tables, etc., together with abundant blank pages for day book notes, and memoranda, engagements, etc. It is bound in flexible leather with a tucked flap.

**The Practitioner's Visiting List for 1912.** A pocket-sized book containing memoranda and data important for every physician, and ruled blanks for recording every detail of practice. The Weekly, Monthly and 30-Patient Perpetual contains 32 pages of data and 160 pages of classified blanks. The 60-Patient Perpetual consists of 256 pages of blanks alone. Each in one wallet-shaped book, bound in flexible leather, with flap and pocket, pencil with rubber, and calendar for two years. Price by mail, postpaid to any address, \$1.25. Thumb-letter index 25 cents extra. Descriptive circular showing the several styles sent on request. Lea & Febiger, Publishers, Philadelphia and New York.

To make comments upon this Visiting List would be simply to repeat what we have said in past years. It is full, complete, and we can conscientiously endorse it.

**The Fourth Physician.** A Christmas story by Montgomery Pickett. Chicago: A. C. McClurg & Co., 1911. \$1.00 net.

The victory of the true physician over ambition and prudishness furnishes the theme of this entertaining little story. Dr. Shepard had made a wonderful discovery which he was too interested in giving to the world in a spectacular manner to give it sufficient trial. He could not spare the time from hobnobbing with a German professor to see a poor sick child in the slums and administer the remedy. The story dramatically depicts how he sacrificed his ambition finally to see the sick child, and how

he was reformed, although the child died. A pretty love story is intertwined with the professional problems and engagements.

**Electricity; Its Medical and Surgical Application.** Including Radiotherapy and Phototherapy. by Charles S. Potts, M. D. With 365 illustrations and 6 Plates. Lea & Febiger, Philadelphia and New York, 1911.

The application of electricity to diagnosis has created a demand for such works as the above—works sufficiently elemental for the use of the beginner and, at the same time, thorough enough for the advanced student, and profound enough for the experienced practitioner. Paradoxical as this statement may appear, it is accomplished in the above work.

The section on Electrophysics, by Horace Clark Richards, possesses the rare attraction of having been written by a master of mathematical physics who, disregarding the medical application entirely, has given us a most comprehensive and, at the same time, simple and plain description of electricity, what it is, the laws to which it conforms, where it comes from, how developed, the machinery to control it,—simple enough for all, and technical enough for any. The remaining six sections cover Electrophysiology, Electrodiagnosis, Electroprognosis, Electrotherapeutics, Methods of Obtaining General and Local Effects, and the Application of the Roentgen Rays in Medicine.

The good judgment and common sense displayed in every page of this book, together with the many practical hints and cautions, favorably commend it to the thoughtful.

The beginner needs it. The older practitioner will find it very useful.

**Recent Studies of Syphilis,** with special reference to Serodiagnosis and Treatment. Second Edition. A reprint of Articles Published in the Interstate Medical Journal, St. Louis. Interstate Medical Journal Co. 1911.

A valuable collection of important papers on Syphilis by men who know.

Ever since the announcement of the casual relationship to syphilis of the spirochaeta pallida, by Schaudinn, in 1905, and the new specific salvarsan (606) by Paul Ehrlich, the study of syphilis has been pursued with more vigor and from a more advantageous angle; indeed, it has occupied the front of the stage.

This collection of twenty-six recent papers by Noguchi, Jones, Cohn, Marks, Housquains, Fordyce, Wolbarst, Wechselmann, Babcock, Hallepeau, Corbus, Dyer, Ravogi, Morrow, Graves, Engelbach, Strouse, Fisch, Skinner, Myer, Schwab, Green, all in the light of the



recently discovered pathology, sets forth in accessible form our present knowledge of the cause, pathology and treatment of syphilis. Coincident with this review comes the announcement that Noguchi and Hoffman have independently demonstrated the specificity of *spirochaeta pallida* as the cause of syphilis by producing the disease in rabbits, from pure cultures obtained in Hoffmann's experiments from man.

**A Text Book of the Practice of Medicine.** By James M. Anders, M. D., Ph. D., LL. D., Professor of the Theory and Practice of Medicine and of Clinical Medicine, Medico-Chirurgical College, Philadelphia. Tenth Revised Edition. Octavo of 1328 pages, fully illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, \$5.50 net; Half Morocco, \$7.00 net.

The enormous advances now being made in internal medicine, cause the advent of this edition to be not only opportune but imperative. Twenty-five years ago text books on practice contained nothing that had not been definitely proven at the time of issue, hence these books were from five to ten years behind the time when they left the press. Today this is all changed. The latest thought is carefully brought out with the statement that it is still under advisement, or that it is not yet proven, or the result of experience to date is noted.

A very careful review of this edition convinces us that nothing is omitted, that any new thought, be it of pathology, etiology, symptoms or treatment that is not found in it, has come out since the press proofs were read. Anders is to be congratulated on his brilliant success in keeping up with the time, that requires the production of three large volumes in the brief interval of two years.

It is a waste of time to read books on practice, that date back five years.

**The Practical Medicine Series.** Under the general editorial charge of Gustavus P. Head, M. D., and Charles L. Mix, A. M., M. D. Vol V. Obstetrics, edited by Joseph D. DeLac, A. M., M. D. and Herbert M. Stowe, M. D. Series, 1911. Chicago: The Year Book Publishers. \$1.25, Series \$10.00.

Volume V. of the Practical Medical Series on Obstetrics has faithfully compiled the advances in that expanding branch. The arrangement is Pregnancy, Labor, The Puerperium and the

New Born, making reference easy. Among the many points discussed we will call attention to but five; Dechloridation or Habitual Death of Fetus, Blood Pressure in Eclampsia, The Lying in Period, Injuries to Child (skull) avoidable and unavoidable, fatal or otherwise, during delivery, Care of Infant, etc.

**Vol. VII Pediatrics,** edited by Isaac A. Abt, M. D., and May Michael, M. D. Orthopedic Surgery, edited by John Ridlon, A. M., M. D., and Charles A. Parker, M. D., \$1.25. Series \$10.00.

Volume VII on Pediatrics and Orthopedic Surgery is a carefully compiled volume and shows great study of these subjects during the year. Until one has carefully examined the books of this series he can only with difficulty appreciate their value. In them the authors have gathered together from all sources the advance thought and experience of the world's best thinkers, experimentors and practitioners, thus each of these books contains practically all of value that has appeared during the year on the subject named. They are better than bound journals, because they draw from numerous journals, and individuals; they also classify and contain many authors' notes.

**Manual of Pathology, Including Bacteriology,** the Technic of Postmortems, and Methods of Pathologic Research, by W. M. Late Coplin, M. D. Fifth edition, rewritten and enlarged, with six hundred and twelve illustrations and twelve plates, eleven of which are in colors. Philadelphia: P. Blackiston's Son & Co., 1911. \$4.50 net.

Coplin's Pathology has been a standard for many years. This fifth edition has been largely rewritten. References to the literature have again been included, which adds materially to the value of the book as a reference work. The illustrations are complete, clear and well executed, as is the editorial and mechanical work as a whole. The colored plates are especially valuable.

Five chapters at the close are devoted to laboratory directions and technique for post-mortem examinations, histologic and bacteriologic methods, microscopic examinations of the urine, and sputum examinations. These chapters alone are worth the whole cost of the book, even without the thirty-one other valued chapters.

## MICHIGAN STATE BOARD OF REGISTRATIONS IN MEDICINE

## RESULTS OF EXAMINATION AT LANSING, OCTOBER 10, 11 12, 1911.

Name and Address.	College.	Date
Alexander, John, Ann Arbor, Mich.	Homeopathic Dept., U. of M	1911
Davis, David M., Baltimore, Md.	Med. Dept., Johns Hopkins Univ	1911
Ghareeb, Saleem E., Gd. Rapids, Mich.	Detroit College of Medicine	1911
Kelley, Edward H., Ironwood, Mich.	Dept. of Med. & Surg., U. of M	1911
LeGolvan, Celestin, Garden, Mich.	Medical Dept., Univ. of Paris	1911
Miller, Bodo E., Ann Arbor Mich.	Dept. of Med. & Surg., U. of M.	1911
Northcott, Andrew T., Bay City, Mich.	Trinity Medical Coll., Toronto	1898
Orzechowski, V. B., Detroit, Mich.	College of P. & S., Illinois Univ.	1911
Stoland, Iver, Kalamazoo, Mich.	Rush Medical College, Illinois	1911
Woodlock, L. A., Dexter, Mich.	Homeopathic Dept., Univ. of Mich.	1911

## ADDITIONAL REGISTRATIONS THROUGH RECIPROCITY.

Name and Address.	College.	Qual No
Berglund, Simeon, Menominee, Mich.	College of P. & S., Illinois Univ. 1906	I. Illinois
Kelley, Wm. H., Detroit, Mich	Baltimore Med. College 1905	I. Maine
McKay, Robert D., Gd. Rapids, Mich.	College of P. & S., Illinois Univ., 1907	I. Illinois
Mc Cullough, R. E., Mason, Mich.	Starling Medical College, Ohio, 1898,	II. Ohio
Stebbins, Eugene B., Ironwood, Mich.	College of Med. & Surg. U. of Minn., 1908	I. Minnesota
Bussard, Robert I., Muskegon, Mich.	Northwestern University Med. School Chi. '10	I. Illinois
Cumming, James G., Ann Arbor, Mich.	Dept. of Med. & Surg. U. of M., 1903	Group 3
Kilroy, John F., Detroit, Mich.	Detroit Homeopathic College, 1911	Group 3
Wardell, Louis A., Hastings, Mich.	Detroit College of Medicine, 1911	Group 3
Rose, Frank Lisle, Jackson, Mich.	Dept. of Med. & Surg., U. of M., 1886	I. Illinois
Hartsock, F. M., Detroit, Mich.	Med. Dept., Columbian Univ., D. C., 1897	I. Dist of Columbia
Royce, Frank D., Detroit, Mich.	Med. Dept., Univ., of Louisville, Ky. 1911	I. Kentucky
Trenkle, Henry L., Flint, Mich.	Med. Dept., University of Minn., 1909	I. Wisconsin
Taylor, Wesley E., Detroit, Mich.	Dept. of M. & S., U. of M., 1899.	II. Georgia
Byers, Earl J., Gd. Rapids, Mich.	College of P. & S., University of Ill., 1909	I. Illinois.
Charles, Joseph W., Detroit, Mich.	St. Louis Medical College, Missouri, 1891	II. Missouri
Grunitz, Otto C., Holland, Mich.	Atlanta School of Medicine, Georgia, 1908	I. Georgia
Hamilton, Wm. F., Detroit, Mich.	Northwestern University Med. School, Ill. '11	I. Illinois
Neal, Thomas A., Detroit, Mich.	Dept. of M. & S., U. of M., 1901	I. New York
Martin, F. H., St. Joseph, Mich.	Hahnemann Med. College, Ill., 1899	II. Wisconsin
Felts, Thomas O., Kalamazoo, Mich.	Barnes Medical College, Mo., 1896	II. Iowa
Geib, Daniel, Groton, So. Dakota,	Dept. of Med. & Surg., U. of M., 1879	II. Dakota
Cullen, Ernest K., Detroit, Mich.	Med. Dept., University of Toronto, 1903	I. Maryland
MacMullen, Frank B., Ann Arbor, Mich.	Homeopathic Dept. U. of M., 1911 ..	Ex., June, '11